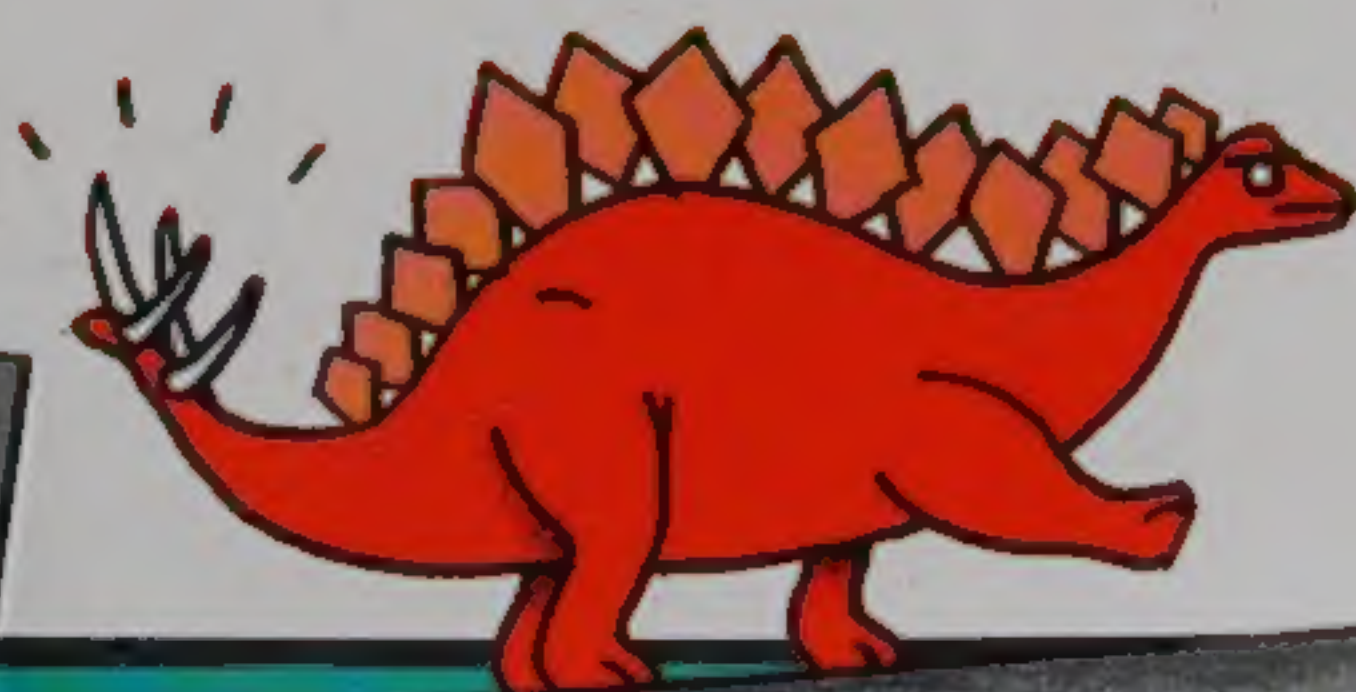




# My Encyclopedia of *Very* IMPORTANT THINGS



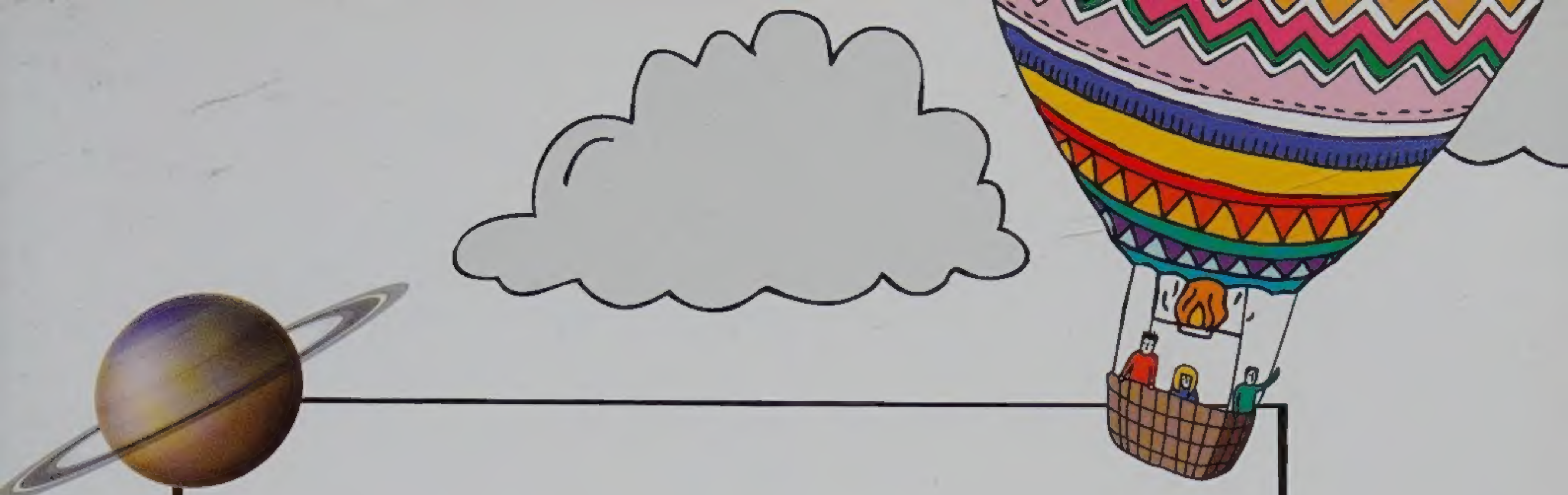












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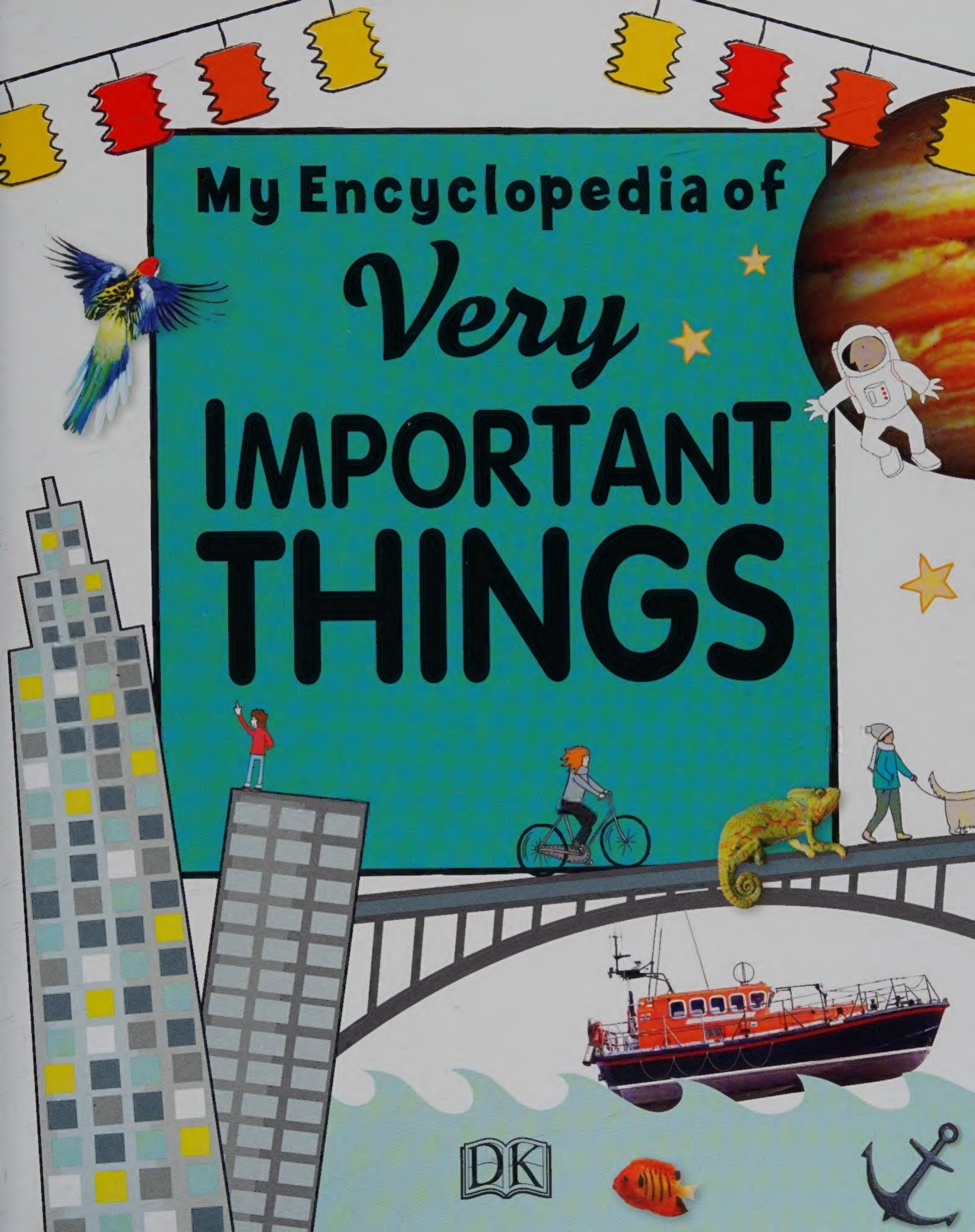
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My Encyclopedia of  
*Very*  
IMPORTANT  
THINGS



DK



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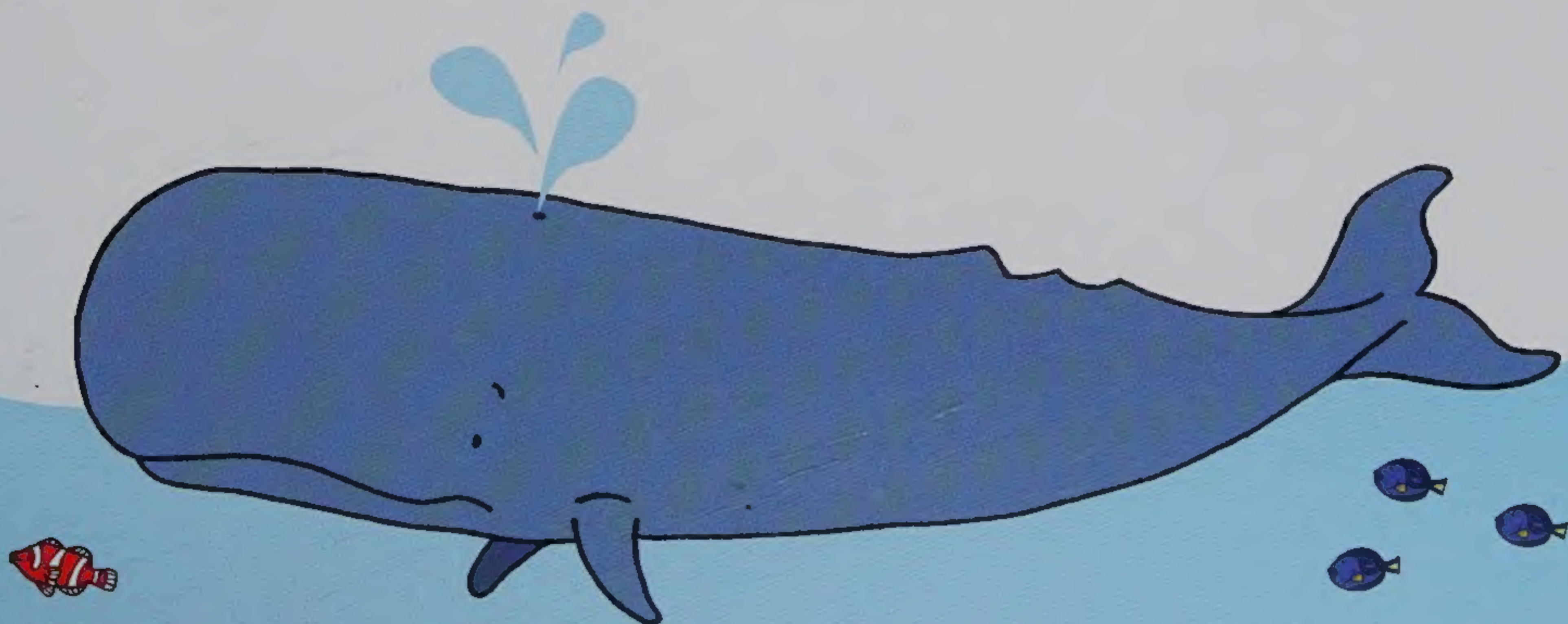




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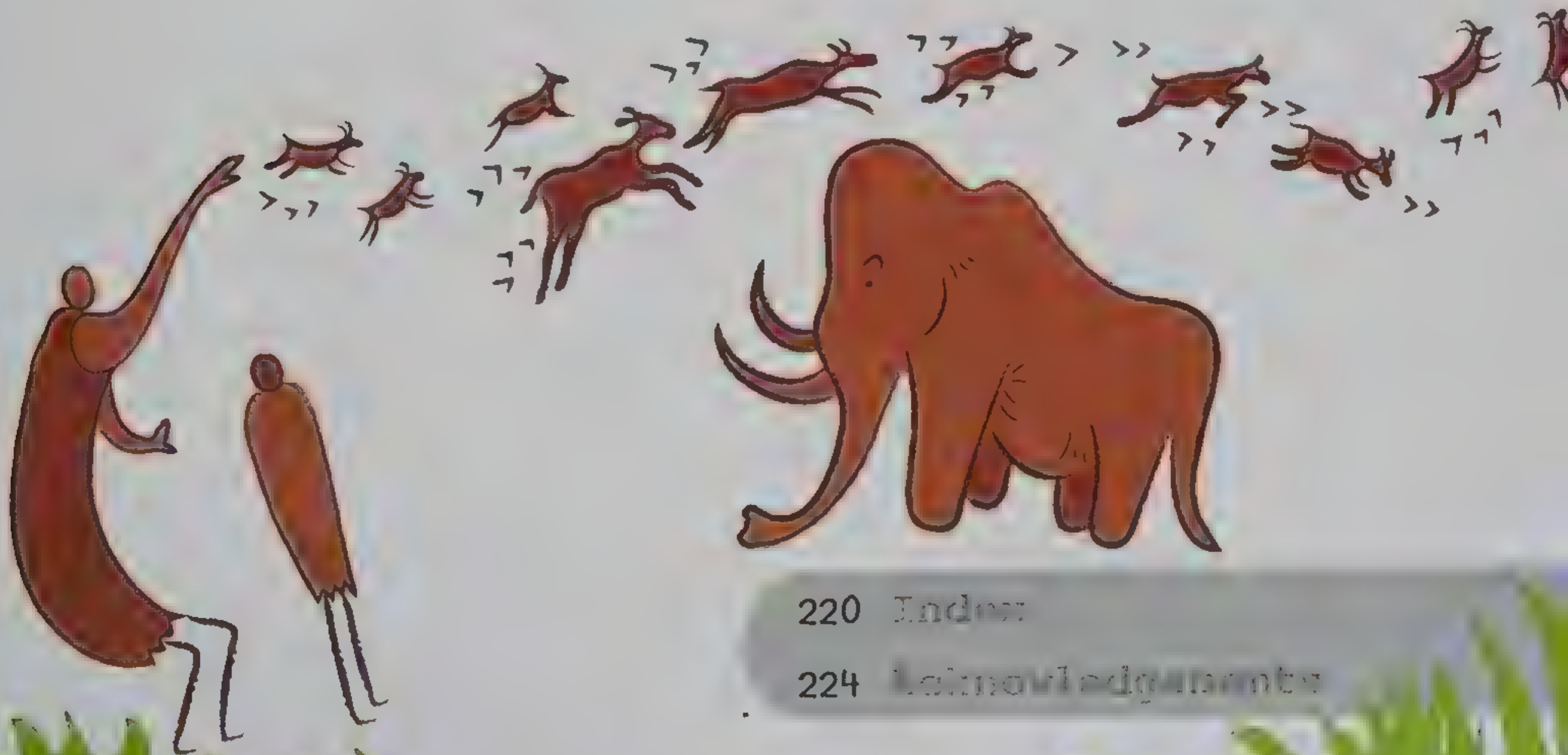
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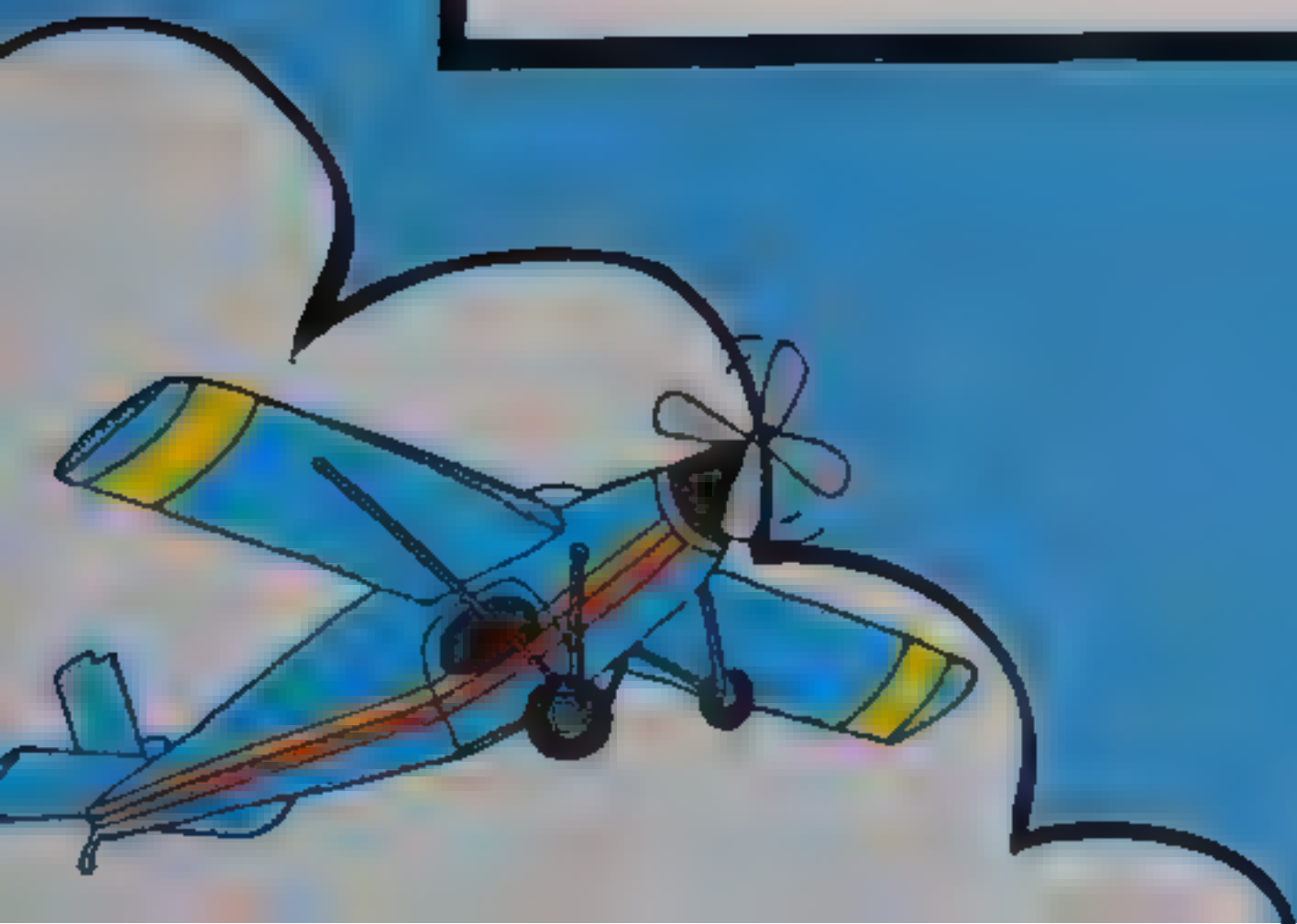




# my planet



**Earth** is our amazing home. It's covered with lush forests, dry deserts, and big blue oceans (so big that Earth looks blue from space.) Earth is the only planet that we know of where things can live, so it's a **very special** place!







# Our place in space

Our planet (Earth) is in a group with seven other planets. This group is called the **solar system**.

## What are planets?

Planets are big round objects in space. Some are made of rock, and the others are big balls of gas. Most of them **orbit** (travel around) a star.

## The sun

The sun is a star. Without its heat, no plants, animals, or people could survive on Earth. That includes you!



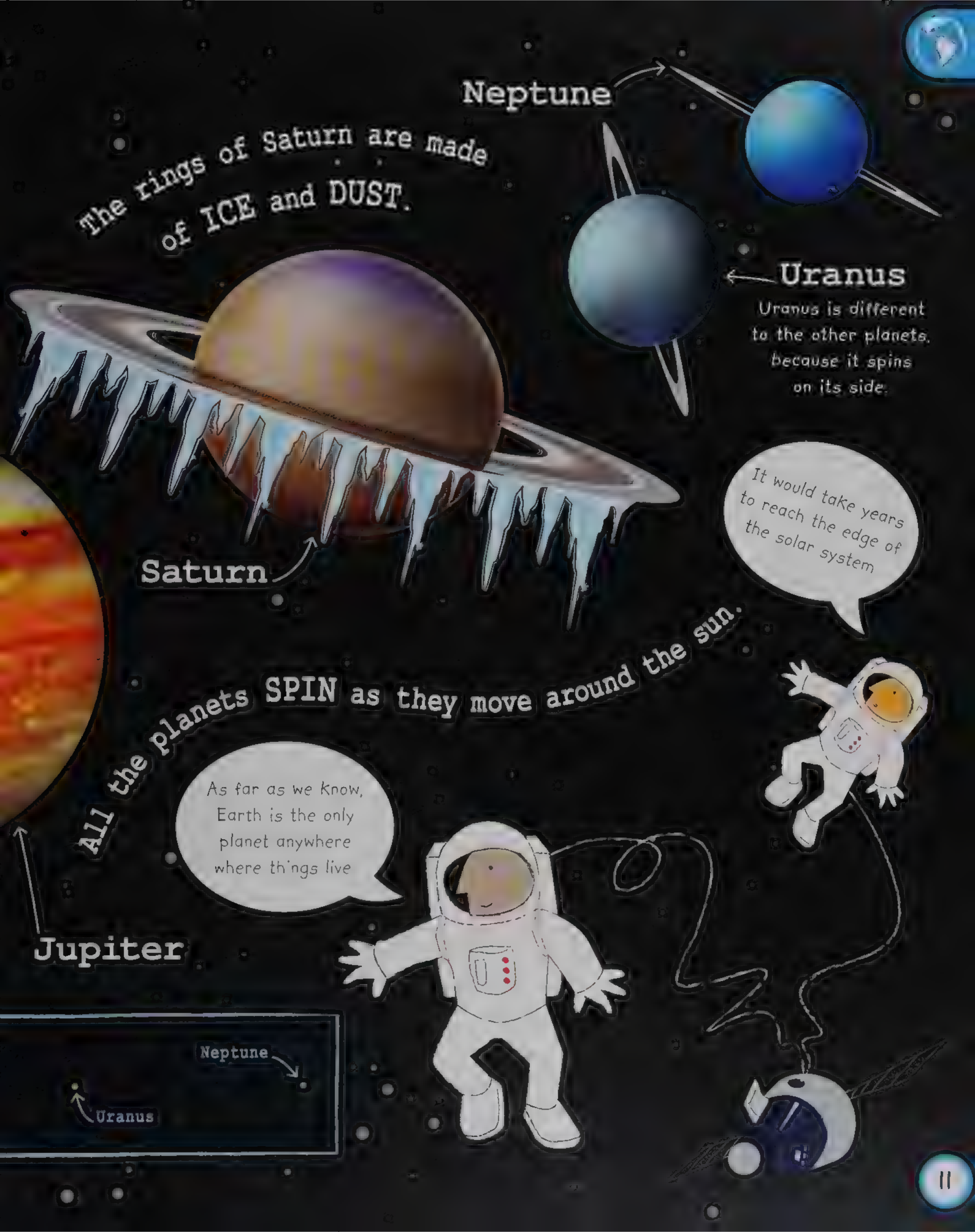
Huge rocks float between Mars and Jupiter in an area called the asteroid belt.



The solar system is so big even the planets that seem close to each other are VERY far apart.







Neptune

The rings of Saturn are made  
of ICE and DUST.

Uranus

Uranus is different  
to the other planets,  
because it spins  
on its side.

Saturn

It would take years  
to reach the edge of  
the solar system

All the planets **SPIN** as they move around the sun.

As far as we know,  
Earth is the only  
planet anywhere  
where things live

Jupiter

Neptune

Uranus





# Our Earth

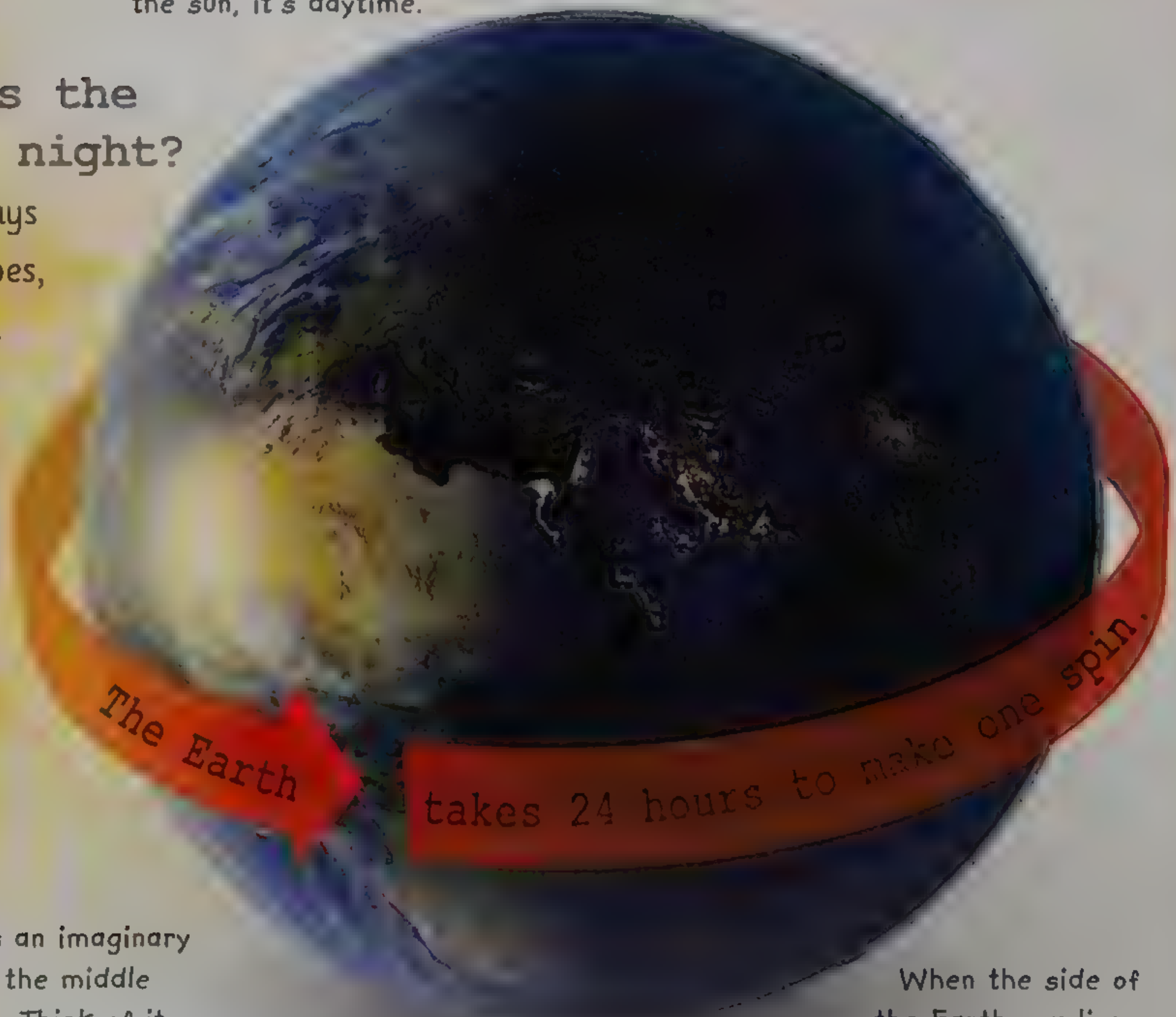
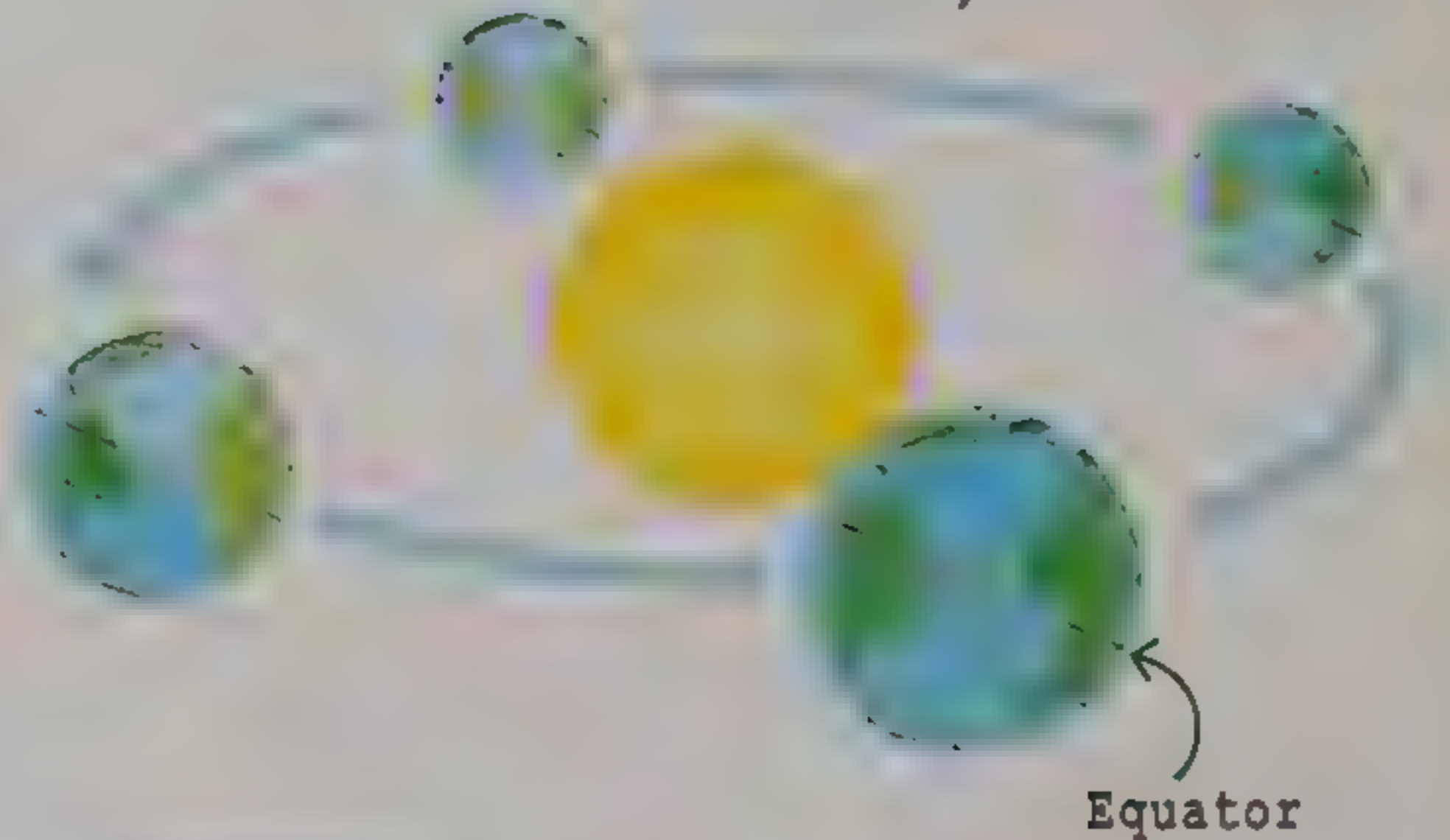
Earth is **our planet**. Most of it is covered by oceans. The rest of the planet's surface is land.

When the side of the Earth you live on faces the sun, it's daytime.

Where does the sun go at night?

The Earth is always spinning. As it does, the sun shines on different parts of the planet. This is why we have days and nights.

The Earth takes a whole year to orbit (move around) the sun once.



The equator is an imaginary line around the middle of the Earth. Think of it like the Earth is wearing an invisible belt!

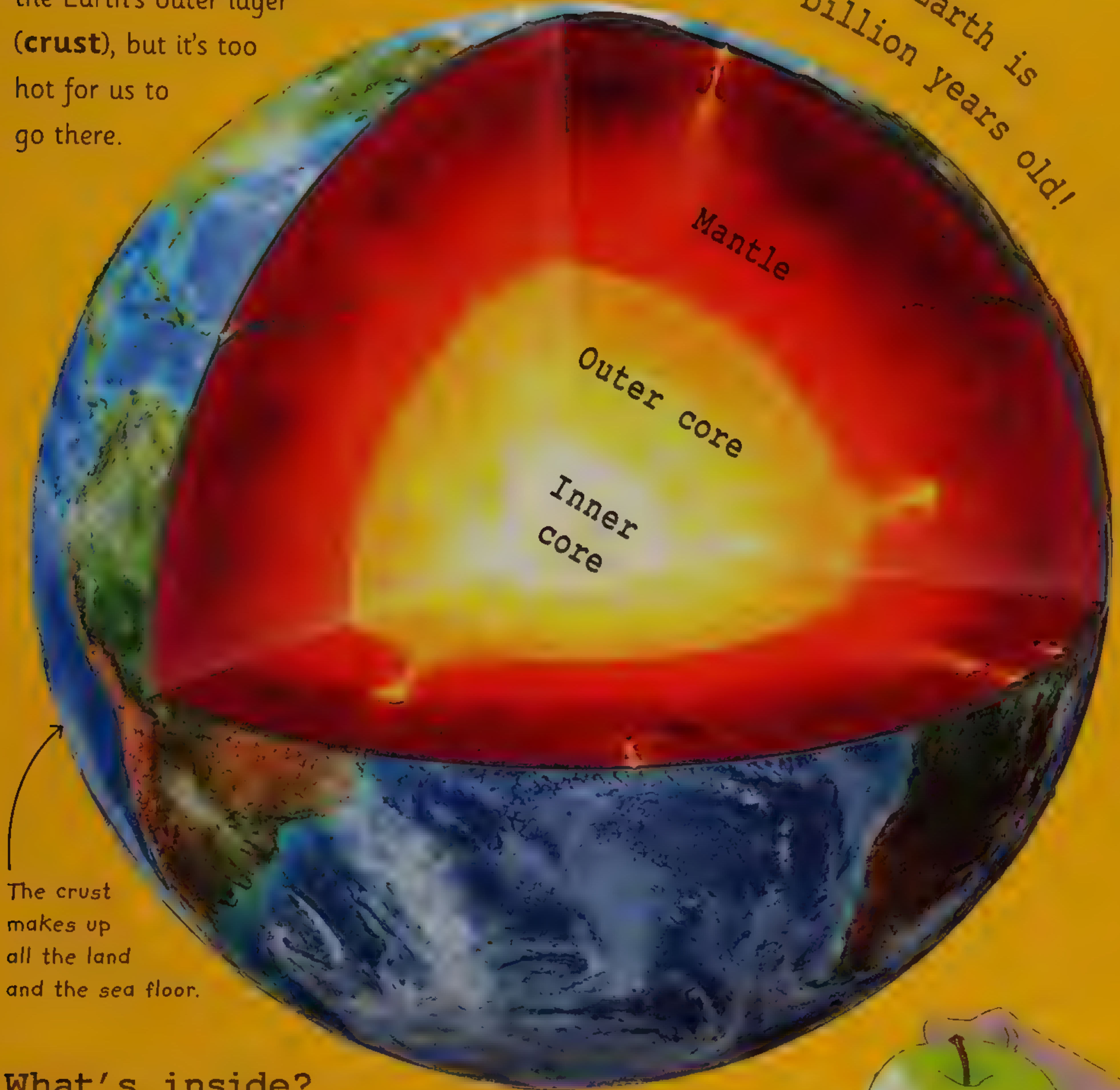
When the side of the Earth you live on turns away from the sun, it's nighttime.



## Inside the Earth

There are **three layers** under the Earth's outer layer (**crust**), but it's too hot for us to go there.

The Earth is 4.5 billion years old!



The crust makes up all the land and the sea floor.

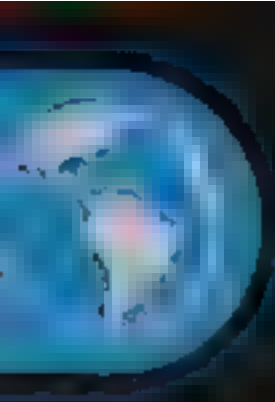
## What's inside?

The **mantle** is almost solid rock, the **outer core** is liquid metals and minerals, and the **inner core** is solid metals and minerals.

If the Earth were an apple, the crust would only be as thick as the skin.







# Which way is space?



If you could drive a car straight up, it would only take about an hour to reach space. On the way you'd pass through five layers of air called the **atmosphere**.

Exosphere

The top layer of the atmosphere doesn't end suddenly. It **fades** gradually farther into space.

Satellite



Satellites orbit the Earth, all the way up here. They send signals to the world.

Thermosphere



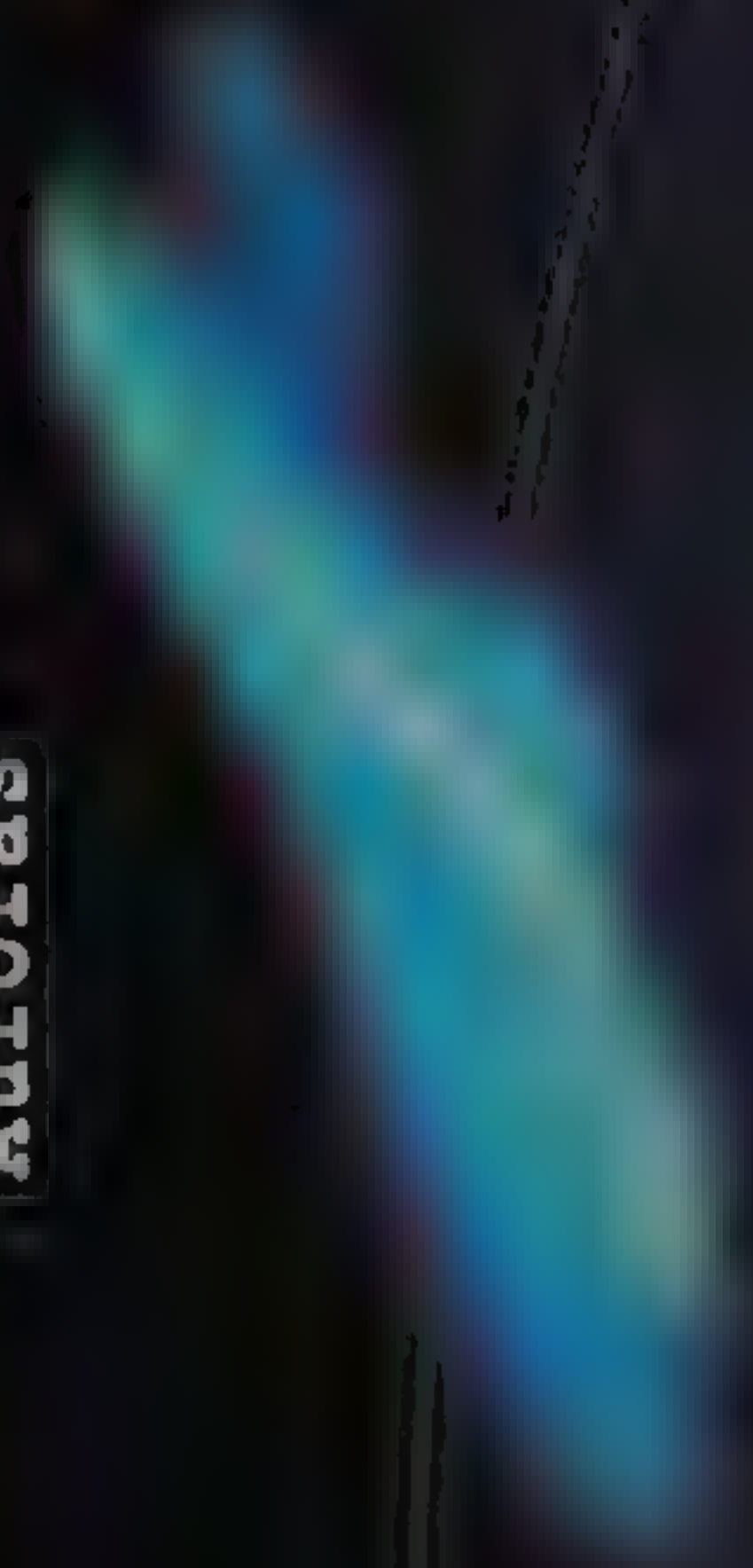
International Space Station

Scientists say **space** starts here. This layer goes up really, REALLY high above the Earth.

Auroras

The Space Station is so big you can sometimes see it from the ground.

You can see the colorful aurora light show from places near the North or South Poles.





Brr! The air up here is **freezing** cold.  
The top of the mesosphere is the  
coldest place in the world.

## Meteors

## Nacreous clouds

These beautiful clouds  
are very rare.

This area is home to the  
**ozone layer**, which helps  
protect us from the sun's rays.

Rüppell's vulture can fly  
higher than any other bird.

Jet planes fly  
above the clouds  
to avoid bumps  
caused by wind.

This is the lowest part of the  
atmosphere. All **weather**  
happens in this bottom layer.

Hot air  
balloon

## Airplane

Mesosphere

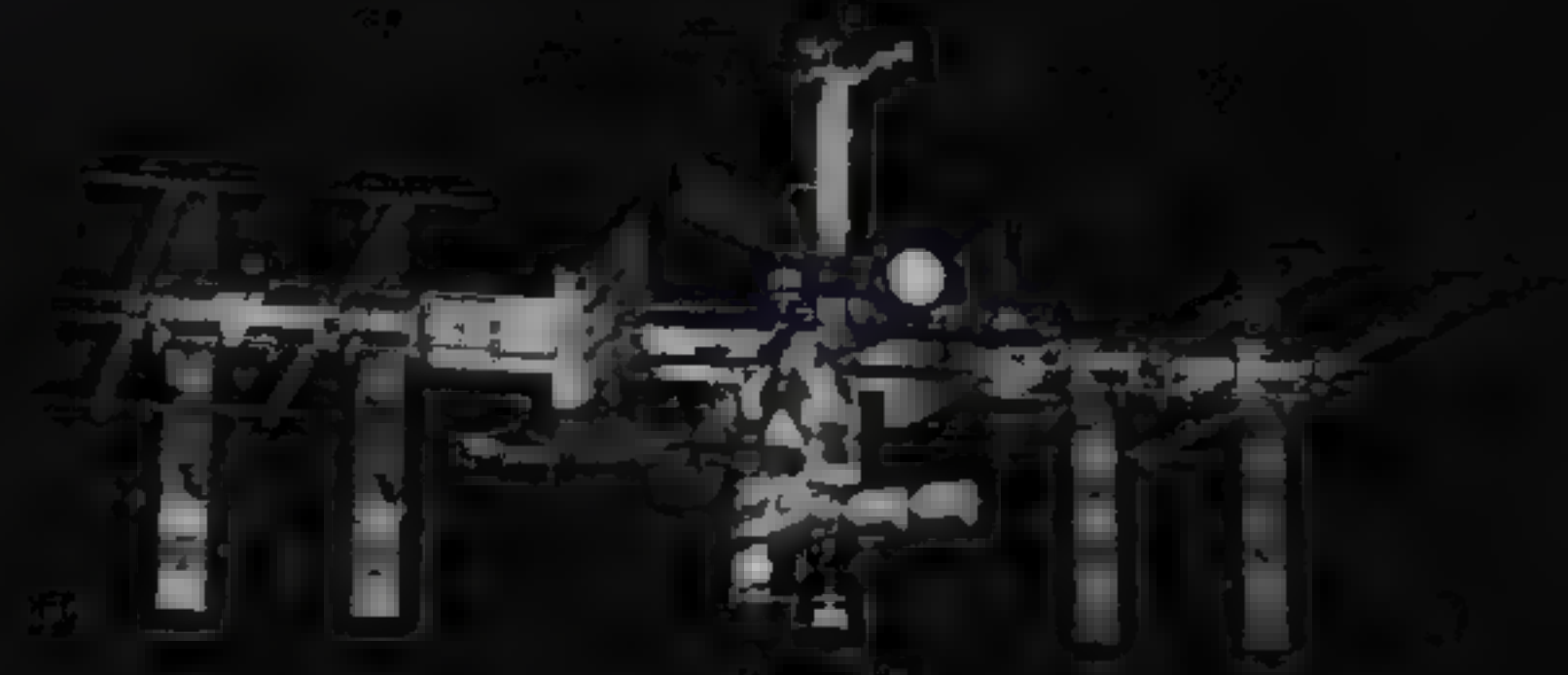
Stratosphere

Troposphere





# The sky at night



Astronauts can stay at the International Space Station while they are in space.

If you look up on a clear evening, the sky can be full of twinkling lights. But not all of these are stars.

The moon is only visible because it reflects light from the sun.

## The moon

There's nothing in the night sky that's easier to spot than the moon. Astronauts have walked on the moon. Their footprints will stay there for millions of years because there is no wind or weather there.

### Phases of the moon

Have you ever wondered why the moon seems to change shape? It's because the sun's light hits the moon at **different angles** as it moves around Earth. There are 8 main phases.



New moon



Waxing crescent



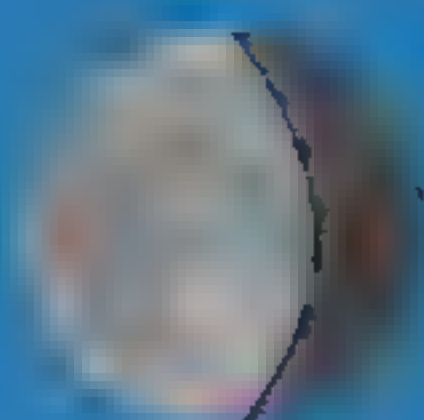
First quarter



Waxing gibbous



Full moon



Waning gibbous



Last quarter



Waning crescent



Aircraft

Satellite

Meteor

Comet

Star

Planet



Moon

Here the moon is in the second phase (waxing crescent).

Eye to the sky  
Telescopes help us to see objects that are very far away, such as planets.



Searchlights





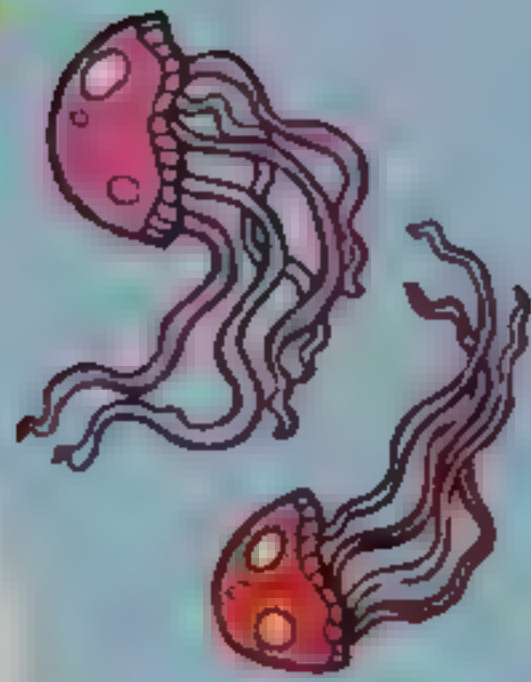
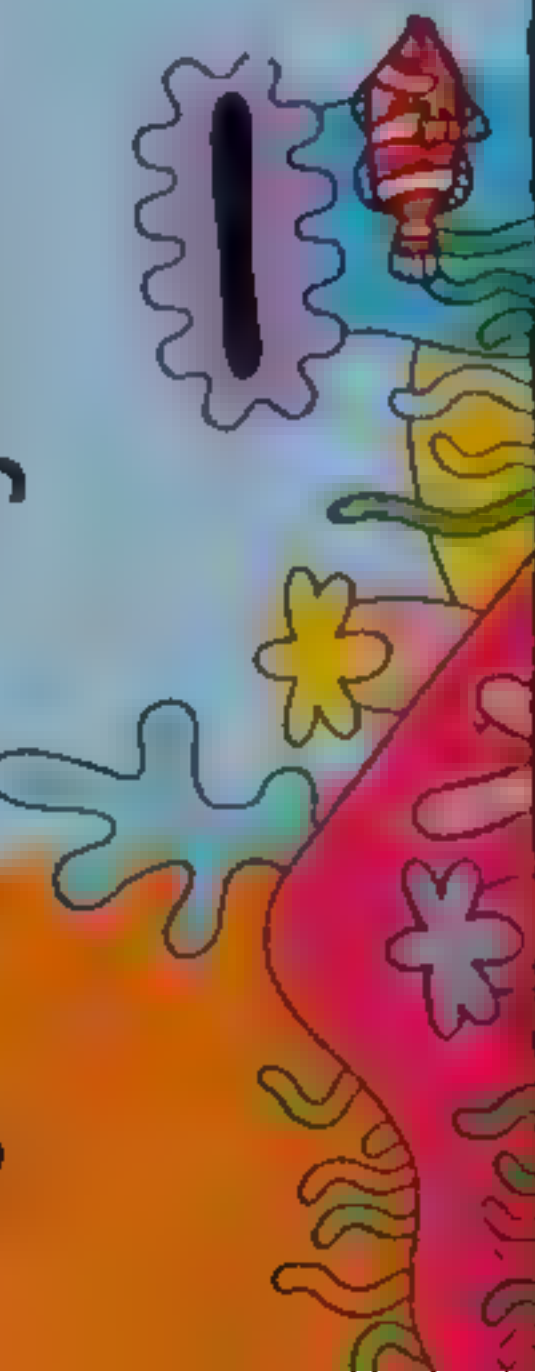
# Under the waves

From the surface to the sea floor, the oceans are packed with life. We separate the ocean into four **zones**.

Let's go diving and learn about each one.

Look at the colors! Most sea creatures live near the surface because they need **light** and **warmth** from the sun.

Sea horse



Jellyfish

Lots of fish and other sea creatures are very colorful.

Brrr! Deeper down

it gets **colder** and

**darker**. Plants don't

grow here because there

isn't enough sunlight.



Whale



Giant sperm whales dive deep for food, then swim all the way up to the surface to breathe!

Twilight zone

Sunlit zone



Going deeper still, there are even fewer animals. Those that do live here are specially **adapted** for the cold and the dark.

## Midnight zone



The only way people can travel here is in special submarines.



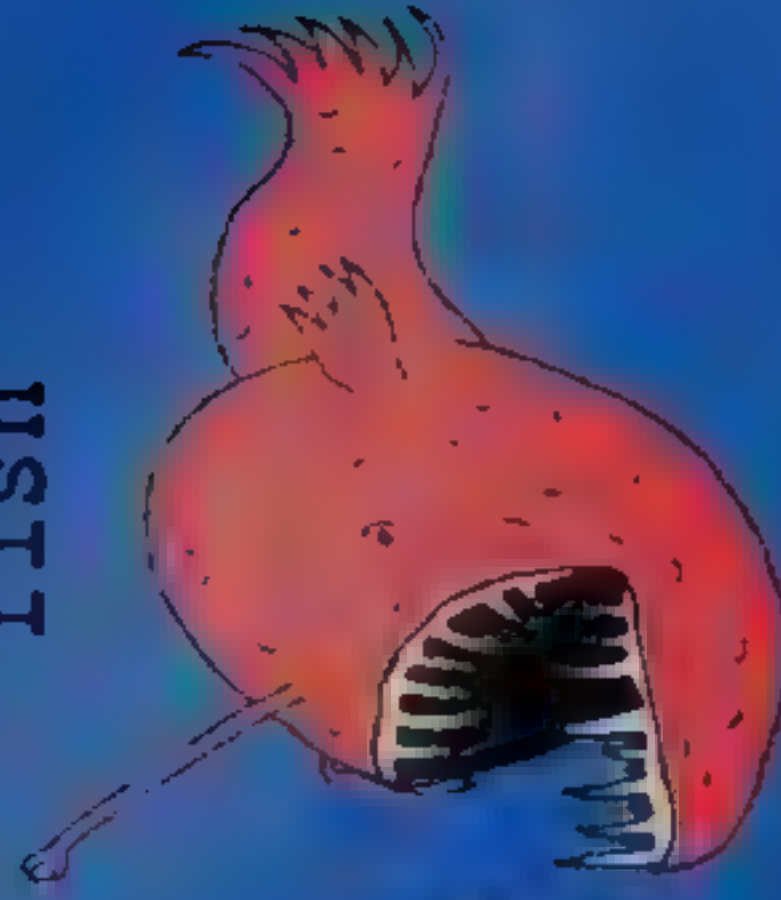
Dumbo octopus



Gulper eel

Angler fish

I have a spine on my head  
which I light up to lure prey  
Then I munch them with  
my terrifying teeth!



## Hadal zone

The **deepest** parts of the Ocean are so dark and hard to reach that even the smartest scientists don't know very much about them!





# Mountains

Shooting up from the ground, **MIGHTY** mountains rise into the sky. The giant peaks shown here are called the **seven summits**.

Mountain animals have adapted to life very high up.

3

Denali  
(North America)

This giant mountain used to be called Mount McKinley.

I'm off to the summit!  
That's what we call the top of a mountain

6

Vinson Massif  
(Antarctica)

There are huge mountains under the sea, too.

## What makes mountains?

Over millions of years, the plates that make up the Earth's crust crash into each other, pushing the ground upward.

Plates start to push together.





Imagine the **VIEW** from up here!

**1**

Everest  
(Asia)

**Awesome adventurers**  
In 1953 Sir Edmund Hillary and  
Tenzing Norgay became the first  
people to reach Everest's summit.

**2**

Aconcagua  
(South America)

**4**

Kilimanjaro  
(Africa)

This isn't just a  
mountain—it's  
a volcano too!

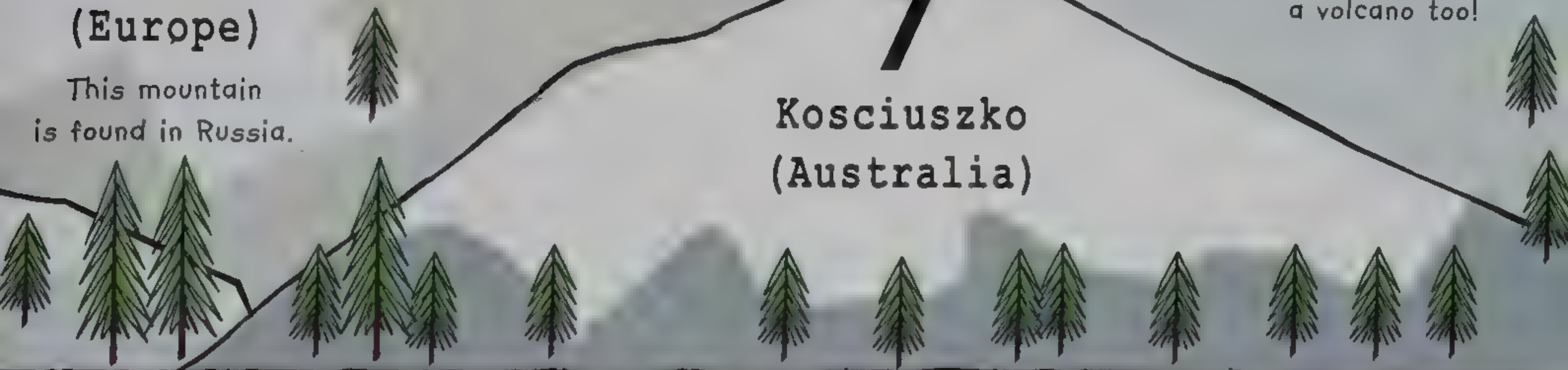
**5**

Elbrus  
(Europe)

This mountain  
is found in Russia.

**7**

Kosciuszko  
(Australia)




**After a long, long time, mountains rise up!**

The plates keep  
pushing, which  
make folds in  
the Earth.



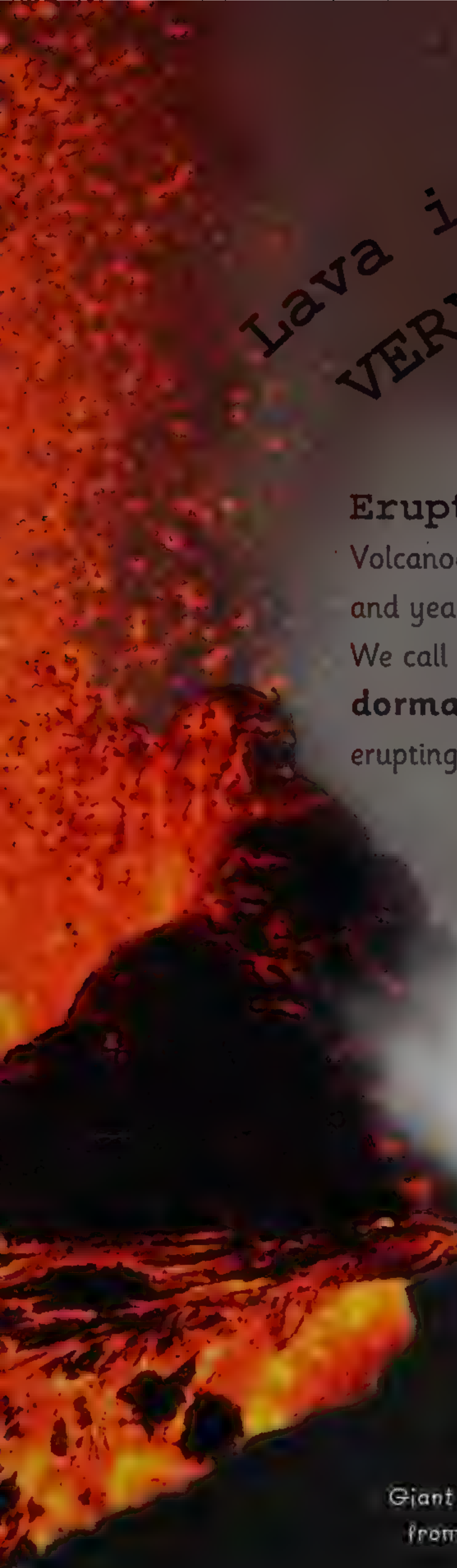




# Very fiery volcanoes

Volcanoes are mountains with a fiery **surprise** inside. When it's eruption time, red hot **lava** bursts out, creating a breathtaking (but dangerous) sight.





Lava is very,  
**VERY** hot.

### Eruptions

Volcanoes can go years and years without erupting. We call these volcanoes **dormant**. Others are erupting all the time!


Eruptions throw ash and dust high into the air.



### What is lava?

Lava is fiery **melted rock** from deep within the Earth that has burst out from inside a volcano. It's so hot it destroys everything in its path.

Lava travels downhill for a long way before it hardens and cools.



Giant rock thrown from a volcano.

Most volcanoes are actually found under the **sea**. When they erupt, the lava can build up and form **islands**.





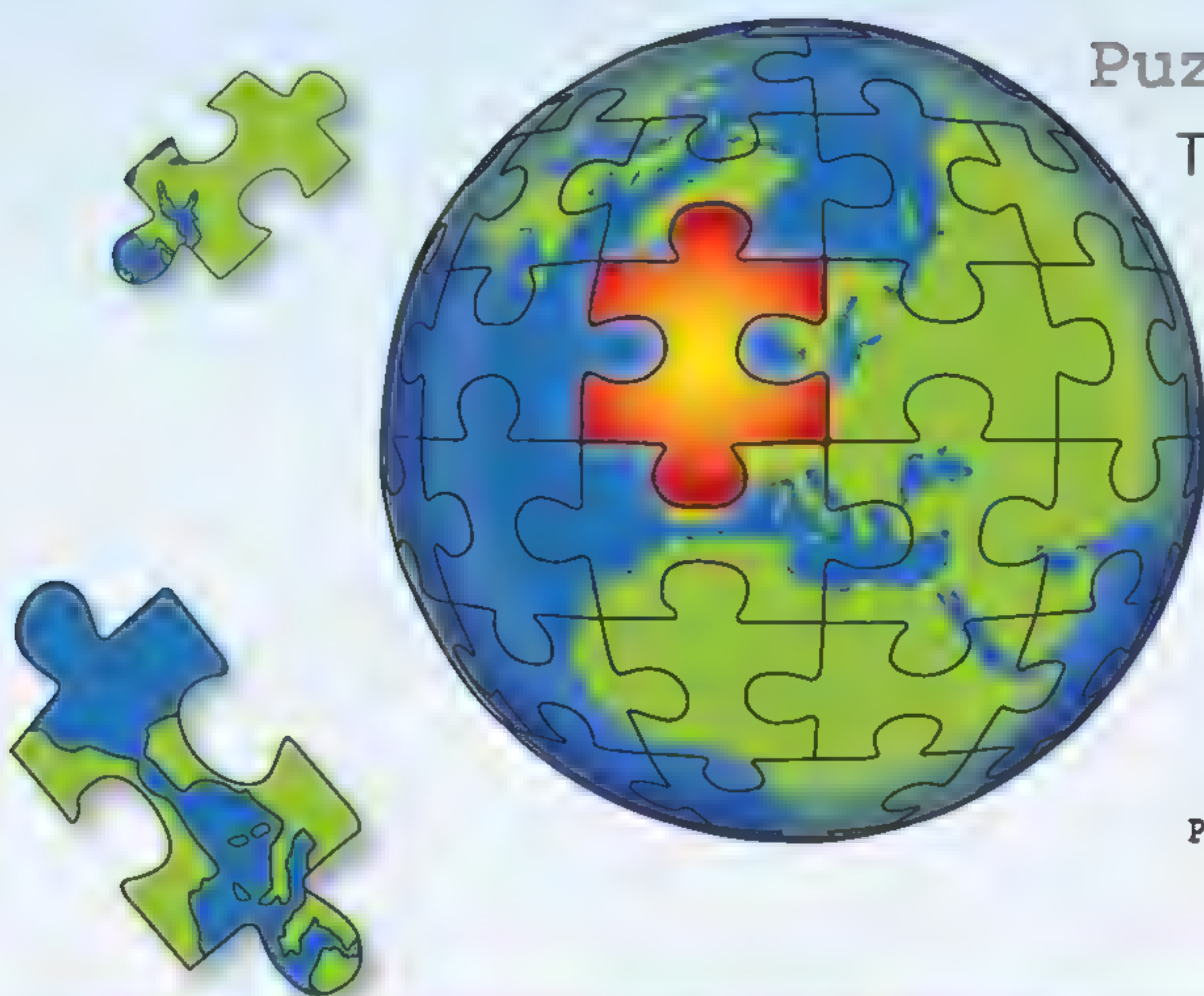
# Shake and quake

Earthquakes are the **rumbling** and **shaking** of the Earth. Most of the time they are harmless, but sometimes they are very destructive and dangerous.

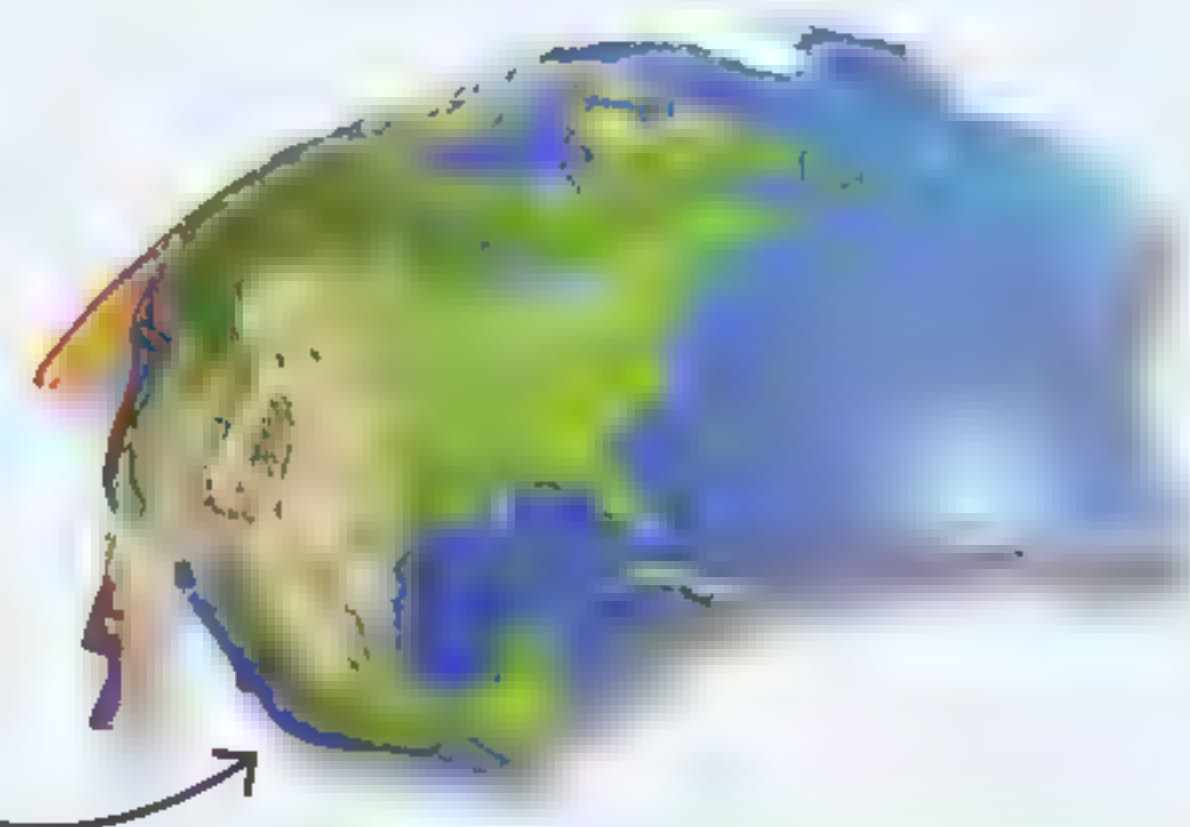


## Puzzle planet

The Earth might seem like one huge rock, but it's actually made up of moving pieces called **plates** that connect together like a jigsaw puzzle.



Plate



## Richter scale

Earthquakes are measured on something called the "Richter scale." The higher the number, the more powerful the earthquake is.

## Low (1)



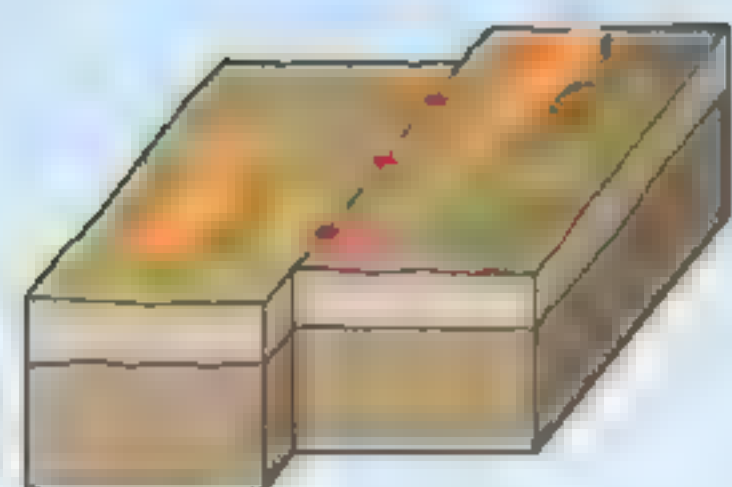
Weak earthquakes happen all the time, but most are too small for people to notice them.





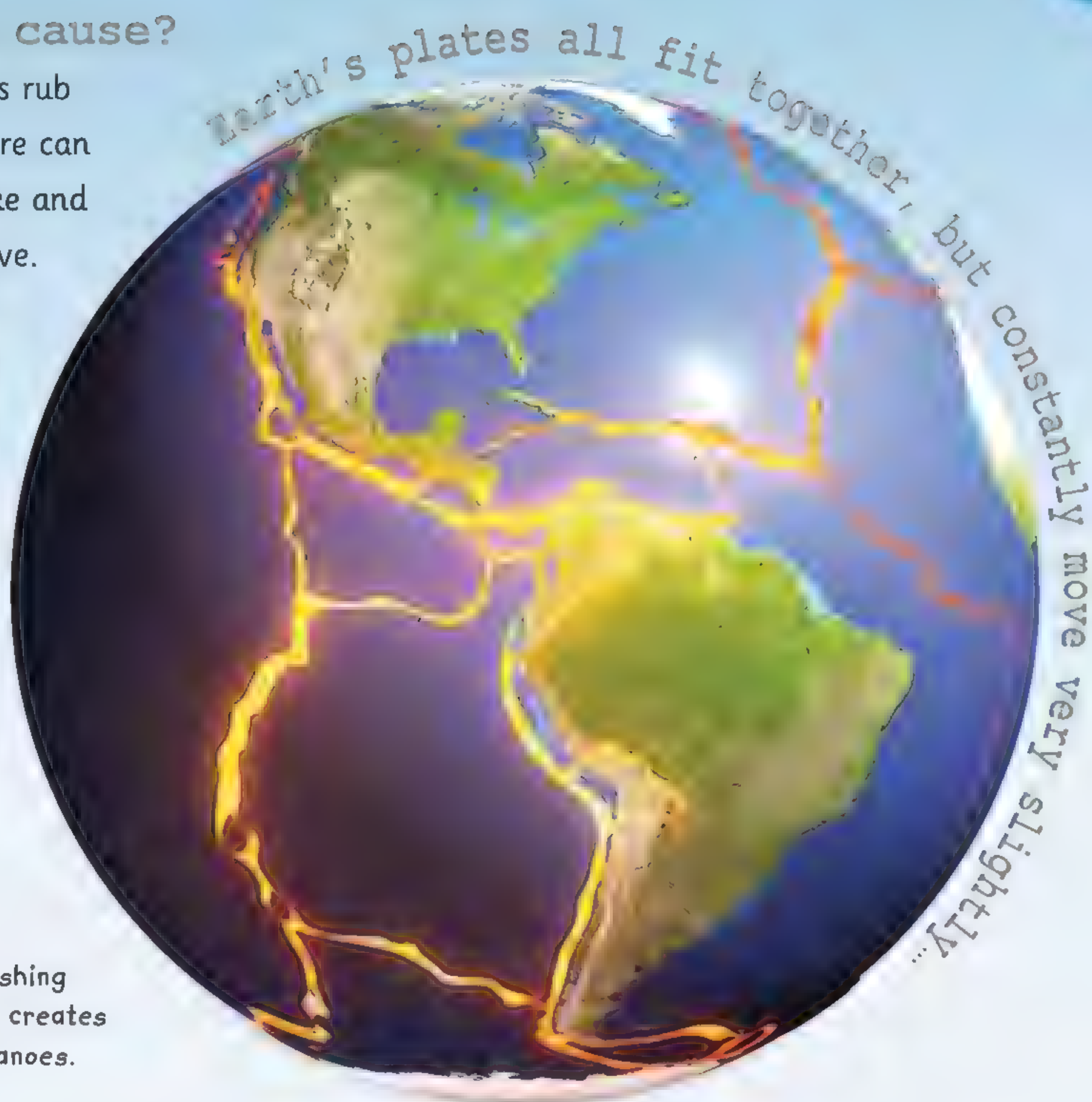
## What's the cause?

When Earth's plates rub together the pressure can cause an earthquake and shake the land above.



Earthquakes that happen at sea can cause tsunamis (giant waves).

Earth's plates crashing together is also what creates mountains and volcanoes.



Medium (4)

High (9)



Strong earthquakes can knock over trees and buildings, and can be very dangerous.








# Dry as a desert

Deserts are very dry places that don't get much **rain**.  
And without water, life can be very TOUGH.



Not much can grow in deserts because there's so little water, but cacti are plants that are specially adapted to survive there.

## Hot deserts

Deserts aren't much fun for people.  
In places like the **Sahara** in Africa they have to put up with sandstorms, extreme heat, and a lack of food and water.

There are deserts all over the world,

The Atacama in South America is so **dry**, some parts haven't had rain in millions of years.

A lot of Australia is covered in a desert called the **Outback**.





## Get Hot! Deserts

An **oasis** is a place in a desert where water is found. They're very rare and sometimes they're not even real! They can be an illusion created by the light called a **mirage**.

A penguin?  
Is that a mirage  
as well?

Brrr! Not all deserts  
are hot. Antarctica is  
a **HUGE** desert, and  
it's absolutely  
**FREEZING**.

and on every continent **except EUROPE**.

The Mojave in the USA is home to **Death Valley**. It doesn't have a nice name because it's not a nice place to be—it's really, **REALLY** hot.

Antarctica is the world's largest **cold desert**. There's lots of ice but very little rain or snow.





# Rain forests

Also known as jungles, rain forests are dark, thick forests full of plants and animals. Those animals must not mind the rain, because rain forests are some of the **wettest** places on Earth!

Rain forests can have lots of heavy thunderstorms.



It's the huge amounts of rain that makes rain-forest trees grow so tall.

Rain forests are home to lots of plants and animals that don't live anywhere else.

Rain forests are sometimes called the "lungs of the world." The trees help absorb carbon dioxide from the air and turn it into **oxygen**, which all living things need to breathe, including you!



Rain forests are usually warm and very damp.

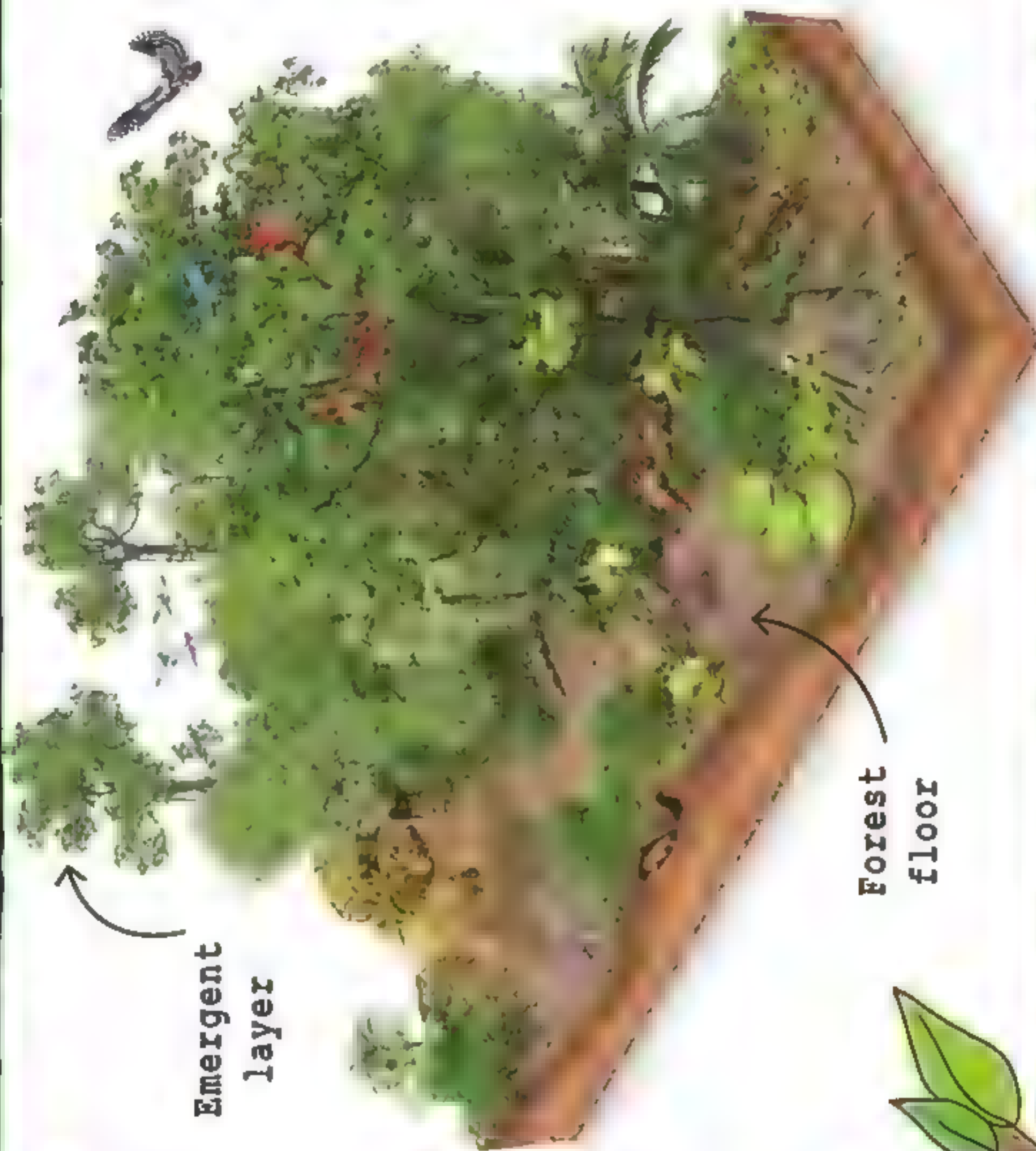
The forest floor is so dark because the trees block out so much of the sunlight.

Almost half of all plant species on Earth live in rain forests.

Tropical rain forests only grow near the Earth's equator.

## Land of layers

Rain forests are made of separate layers. There's the **forest floor**, and **understorey**, which are full of small trees and animals. Above them are the **canopy**, a tangled group of trees, and the **emergent layer**—where the tallest trees stick out of the top.







# Wonderful water

Our planet is covered in water. It's in the sea, on the land, and in the air. The journey of water is called the water cycle.

**2** The wind blows the vapor over land. When the water reaches cooler air, it joins together as droplets in clouds.

**1** The sun heats the sea and turns the water into **vapor**. The vapor rises into the air.

Most of the water on Earth is seawater, which is too salty to drink.





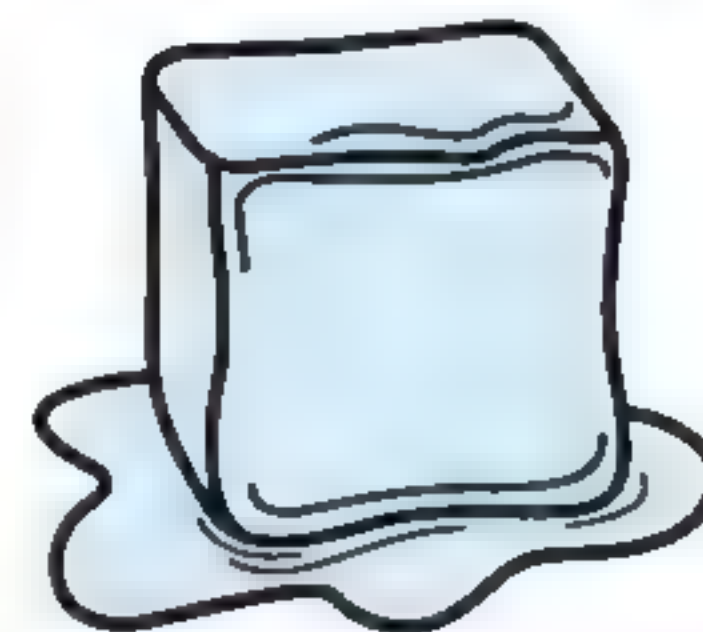
## Water states

When water is heated up or cooled down, it can change from liquid into gas or solid ice. We call these different forms **states**.



When ice gets warm it melts and turns into water in its LIQUID form.

When water gets very cold it freezes into ice. This is water in its SOLID form.



When water gets hot it turns into steam (vapor). This is water in its GAS form.



**3** When the droplets get too large and heavy, they fall from the clouds as **rain**, or if it is cold enough, as snow.

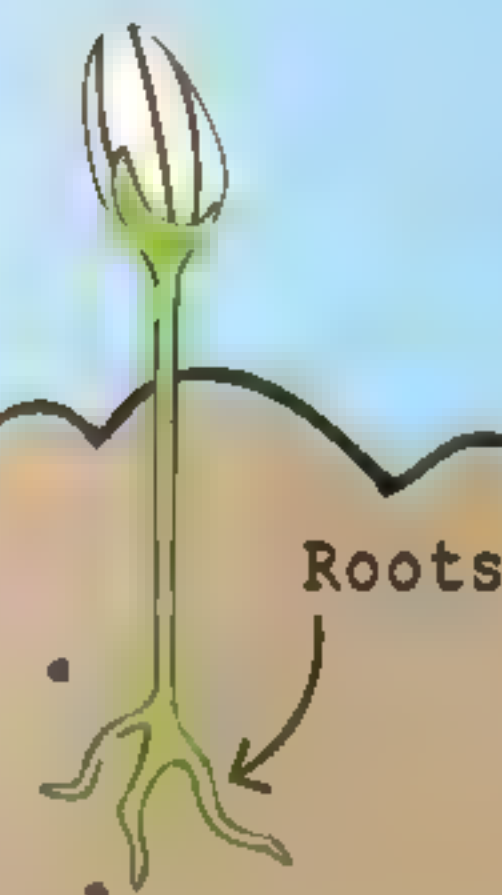
**4** The water runs into the ground, streams, and rivers. It flows downhill, often back into the sea to start again.





# How does it grow?

With enough time, teeny tiny **seeds** turn into giant plants. It's like **magic** in slow motion.

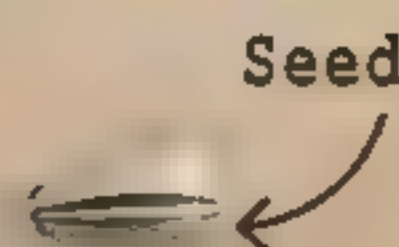


**1**

A sunflower head is full of **seeds**.

**2**

The seeds are **blown off** the flower and onto the ground.



**3**

**Rain** and sunshine help the seed sprout and grow roots.

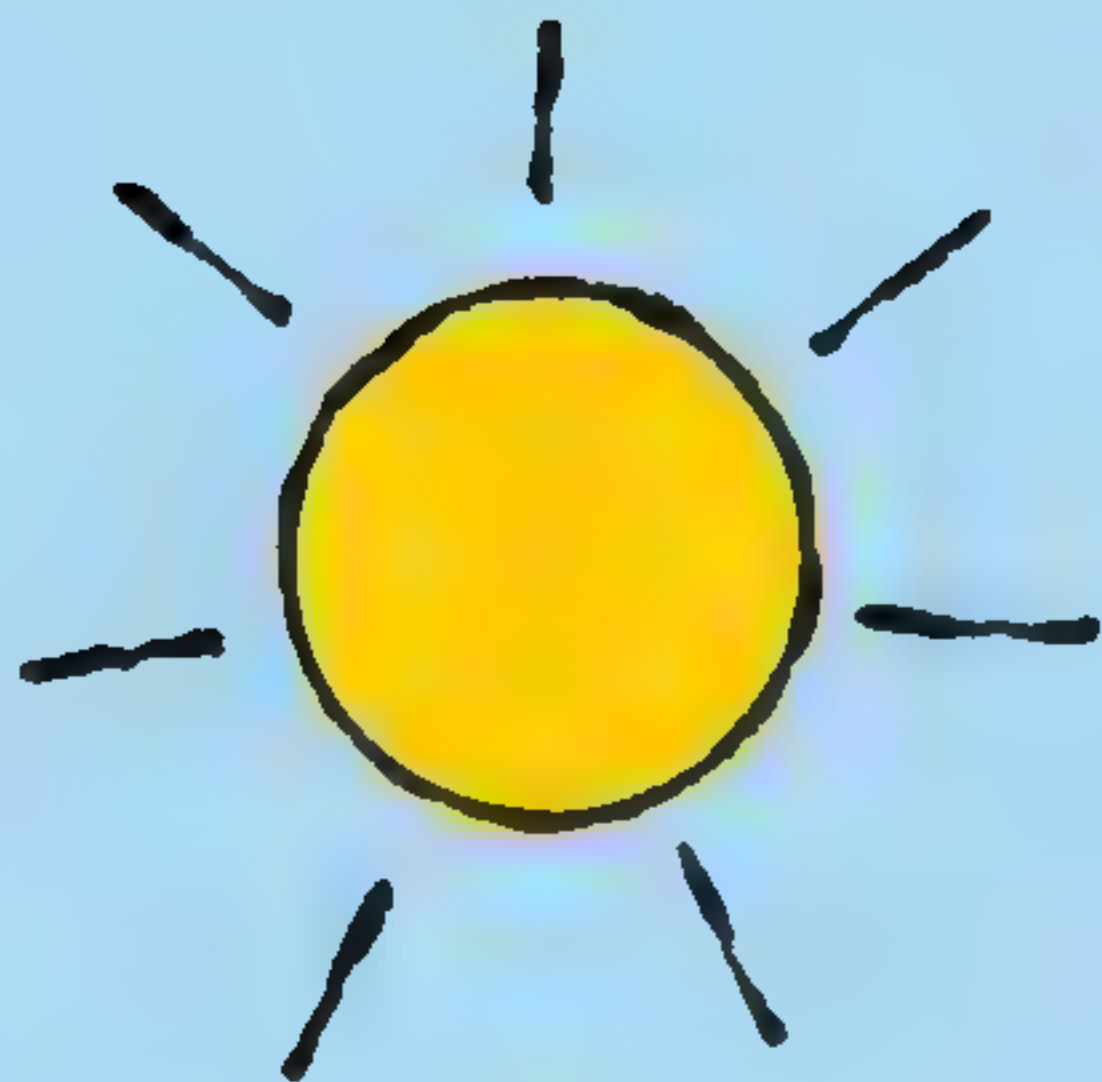
## Big and small

Seeds come in lots of shapes and sizes. Some are bigger than your head, and others are almost too small to see!

The **coco de mer** tree has seeds that are as big as basketballs. "Coco de mer" means "sea coconut."







SUNFLOWERS  
grow  
big and tall.



Sunflower  
shoot

The shell of a  
sunflower seed  
falls off.

Stem



4

A green **shoot**  
opens up and says  
hello to the world.

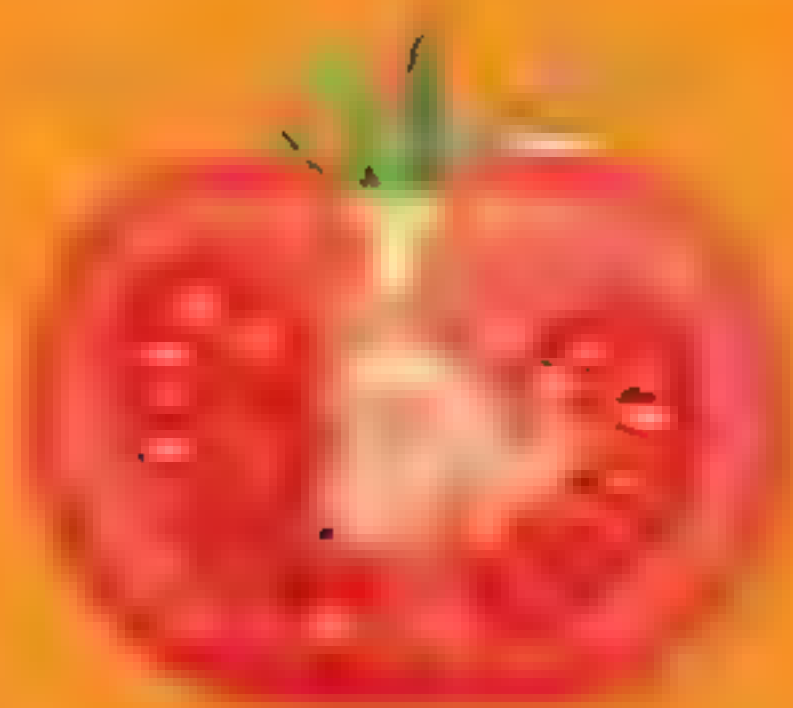
5

With help from the **sun**  
more leaves start to grow  
and the plant gets bigger.

6

Finally there is a beautiful  
**flower**, and the whole  
thing will start again!

CAN YOU see where the SEEDS are in these FRUITS?



Tomato



Peach



Strawberry



Apple





# The changing seasons

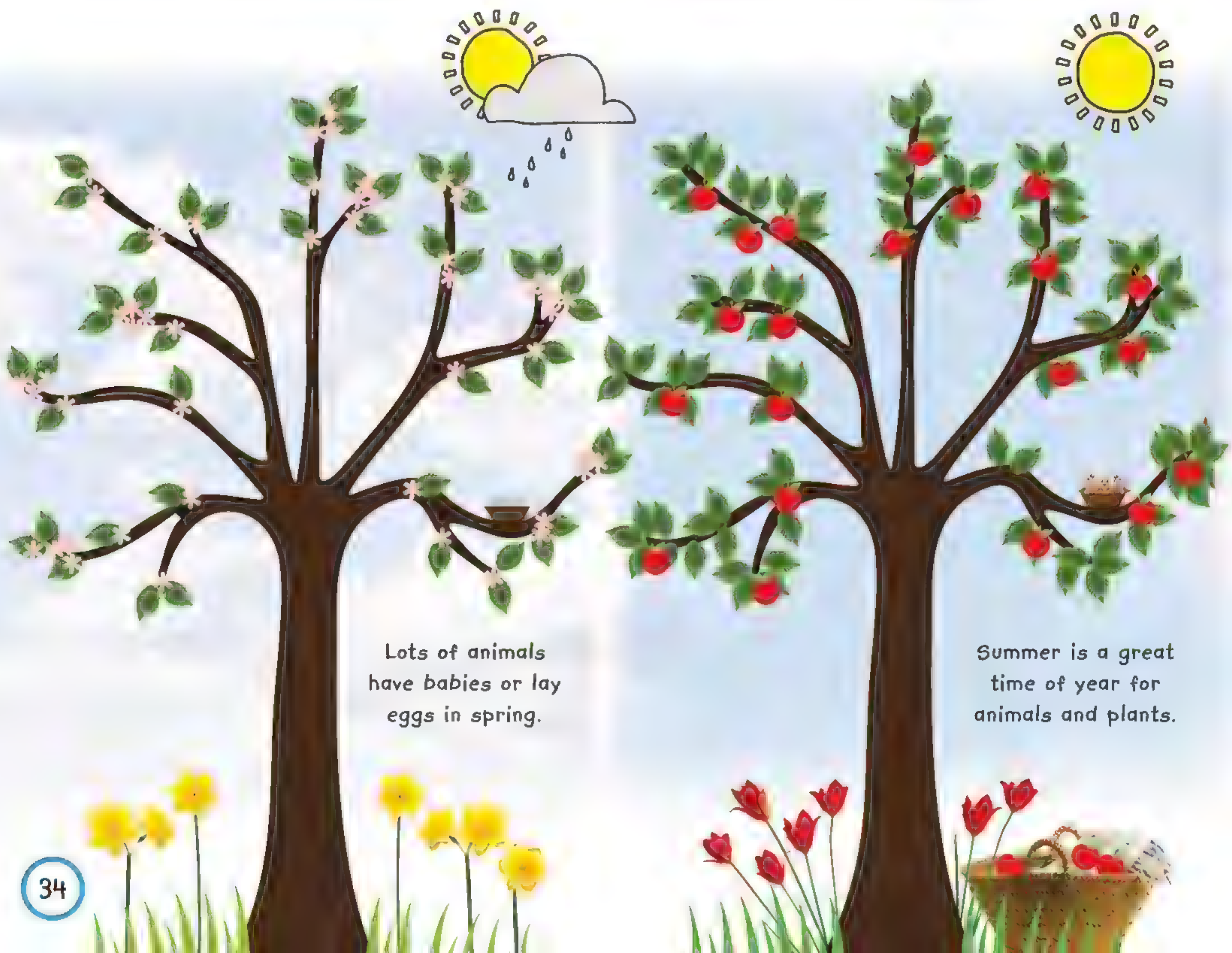
Each year, Earth goes through **times of change** that affect the weather, plants, and animals. These are known as seasons.

## Spring

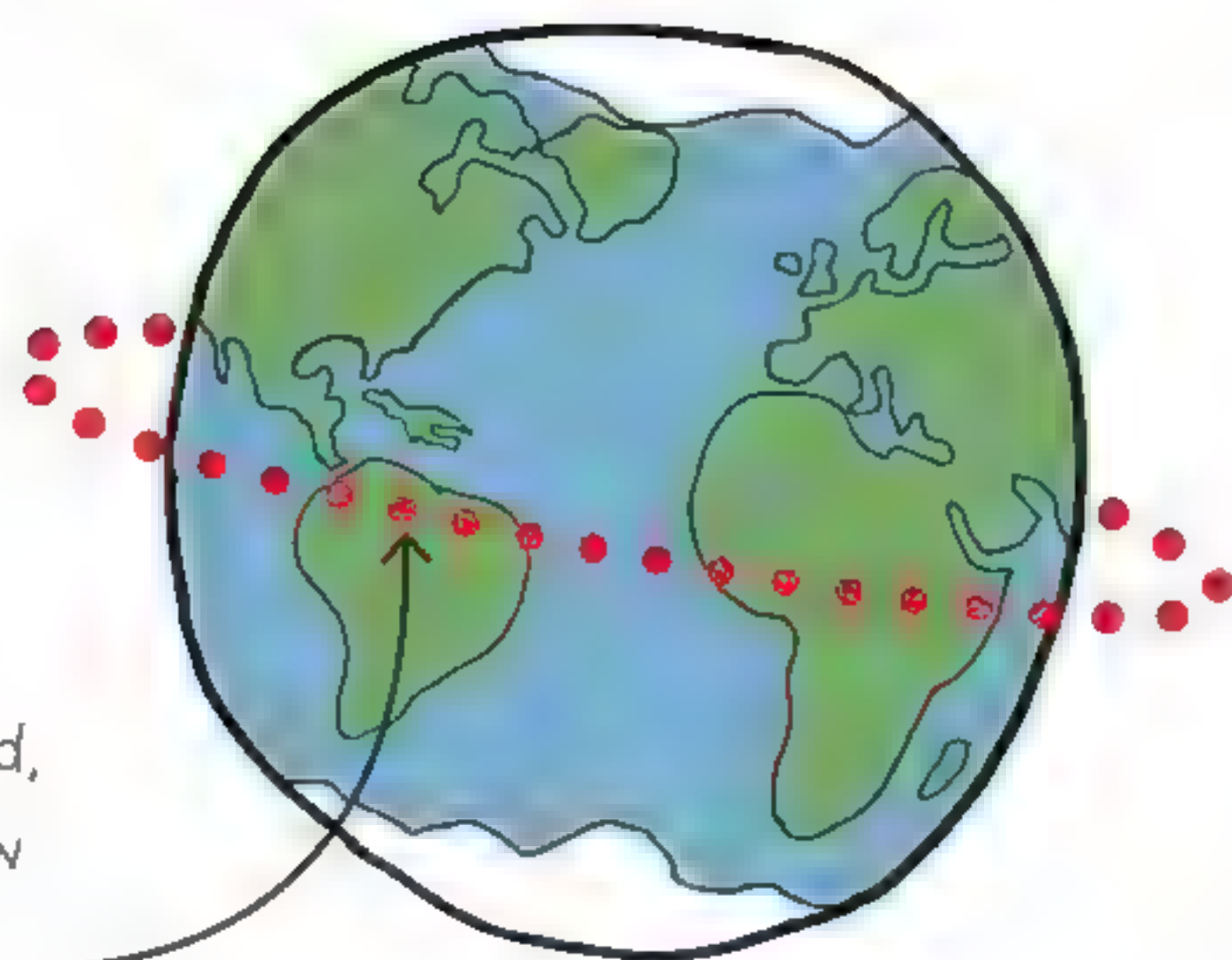
Spring can bring sunshine and rain, which helps plants and trees start to bloom.

## Summer

Usually the warmest season, summer is the time crops and fruit grow the most.







The seasons don't change as much near the middle of the world, but they do affect how much rain there is.

## Why it happens

The seasons change as the Earth **moves around** the sun and tilts toward or away from it. So the season you are having depends on where you live on the planet.

## Fall

In fall, the weather gets colder and some trees start to lose their leaves.



During fall leaves often change color.

## Winter

There is less sunshine in winter so it is much colder. Some animals sleep all winter long.



During winter the days are darker and longer.



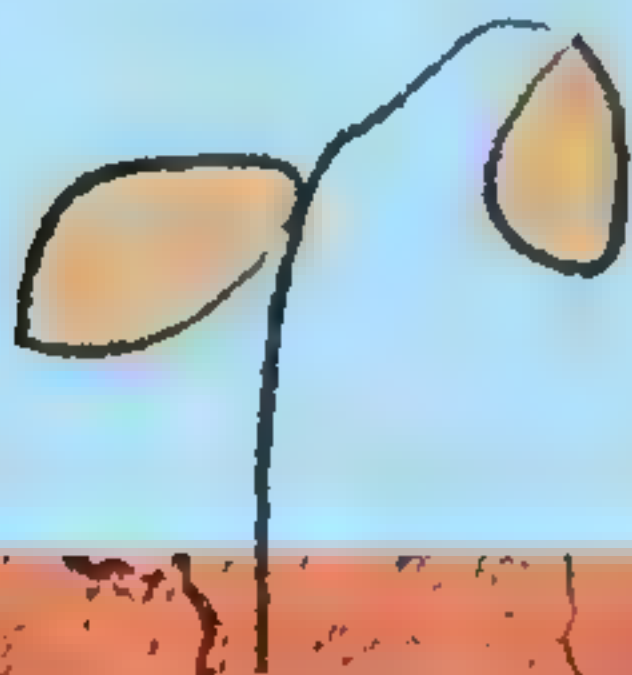
# Extreme weather

Crazy, weird, or **WILD**, sometimes it seems that weather has a mind of its own...

## Heat waves



This is what happens when it's **hotter** than usual. It makes the ground dry up and can cause fires.



## Floods



When there's too much **water** and it has no place to go, you may get destructive floods.



## Tornadoes

Super fast winds with a spinning center become twisty tornadoes that **swirl** and **WHIRL**.





## Seem extreme?

When weather is extreme that means it's **different** to normal weather. There are many types of extreme weather in addition to the ones below, such as blizzards and hailstorms.

### Hurricanes

These heavy monster **storms** of wind and rain are also known as cyclones or typhoons.



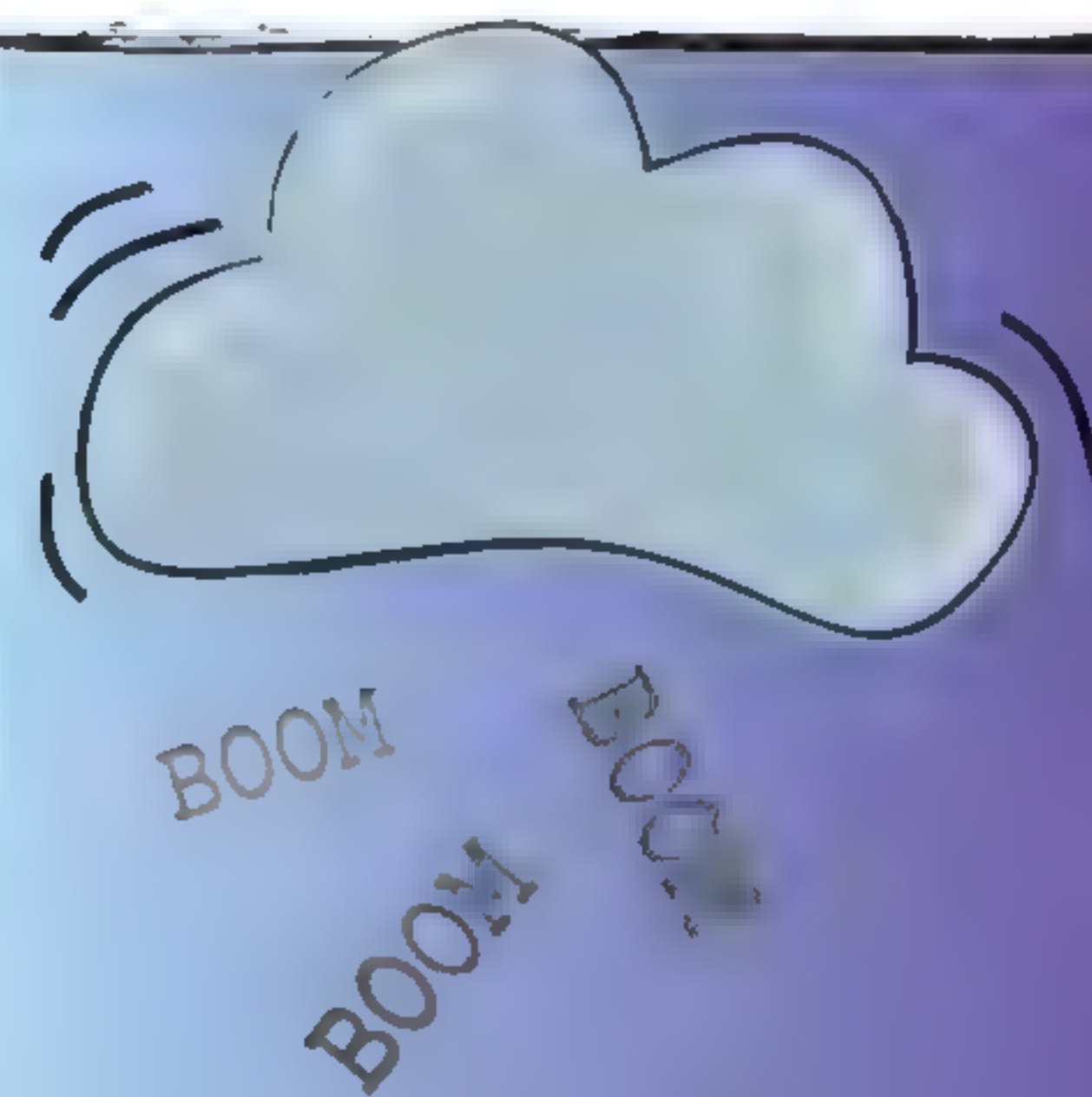
### Lightning



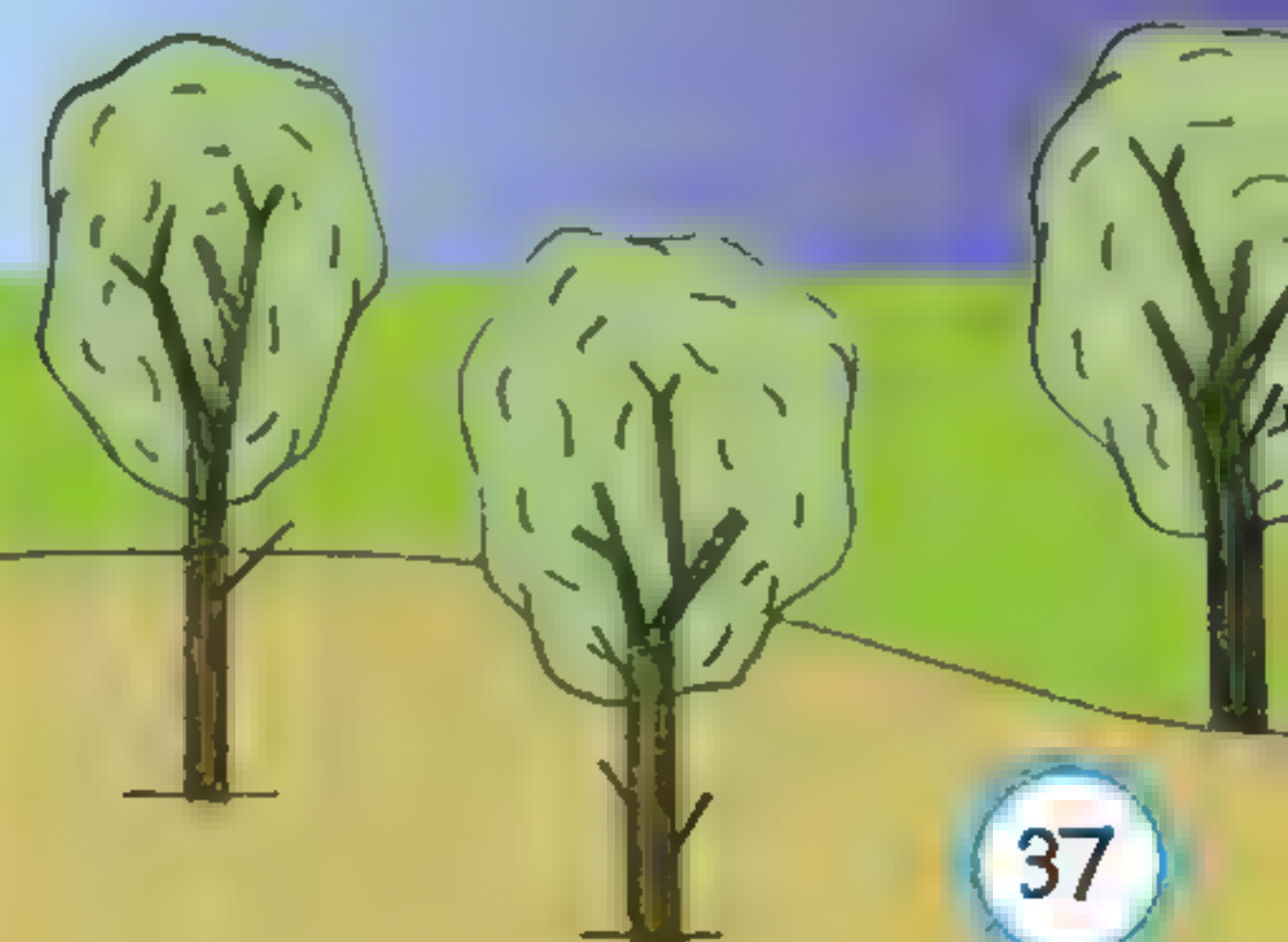
Bolts of **electricity** are made inside clouds. They rush to Earth, striking tall buildings and trees.



### Thunder



This is the very loud **BOOMING** sound that lightning makes.







# The Wind and the Sun

High up in the sky, the Wind was arguing with the Sun about which of them was **stronger**.



"I can make storms and hurricanes!  
You are quiet and weak," laughed the Wind.

"Being kind and calm  
is also a strength,"  
replied the Sun.



So they decided to have a **contest** to see who could make a man take off his coat first. The Wind thought he'd win **easily**.





The Wind **huffed and puffed** with all his might. The man's coat flew open but did not blow off. The Wind blew harder but the coat stayed on.



When it was the Sun's turn, she **smiled** and began to **slowly warm** the Earth. The man smiled back and took off his coat to enjoy the weather.



And so the Sun won! She showed that being **gentle** and **kind** is what makes you **strong**.



Very important things about

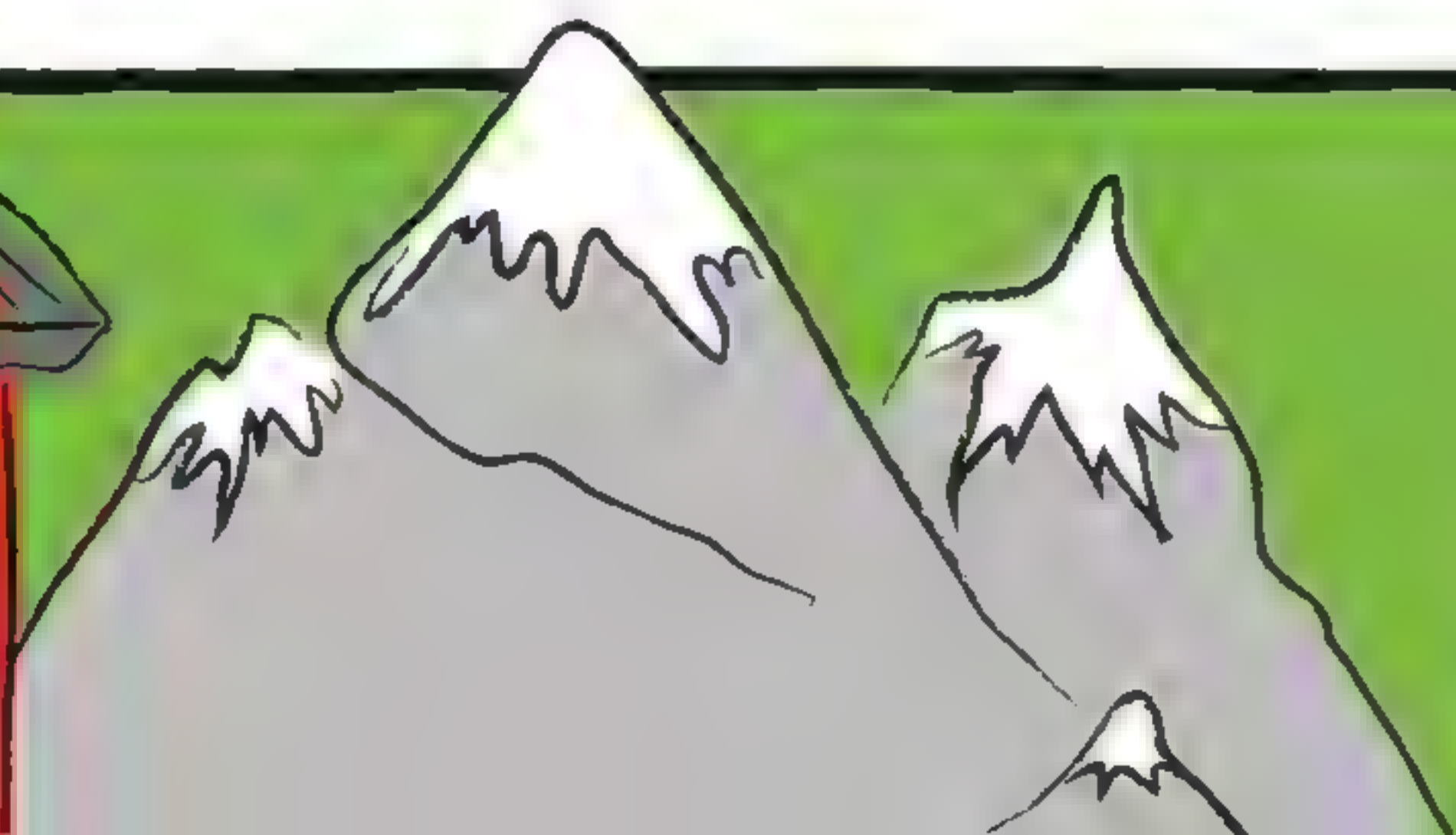




# places



Our planet is a very **big place**. Six of its seven continents are full of amazing people, interesting animals, and stunning sights. Antarctica, the seventh continent, is too cold for people to live on—but it's still pretty spectacular. Let's take a look.







# I can count **7** continents

Time to fly around the world  
and visit the continents.

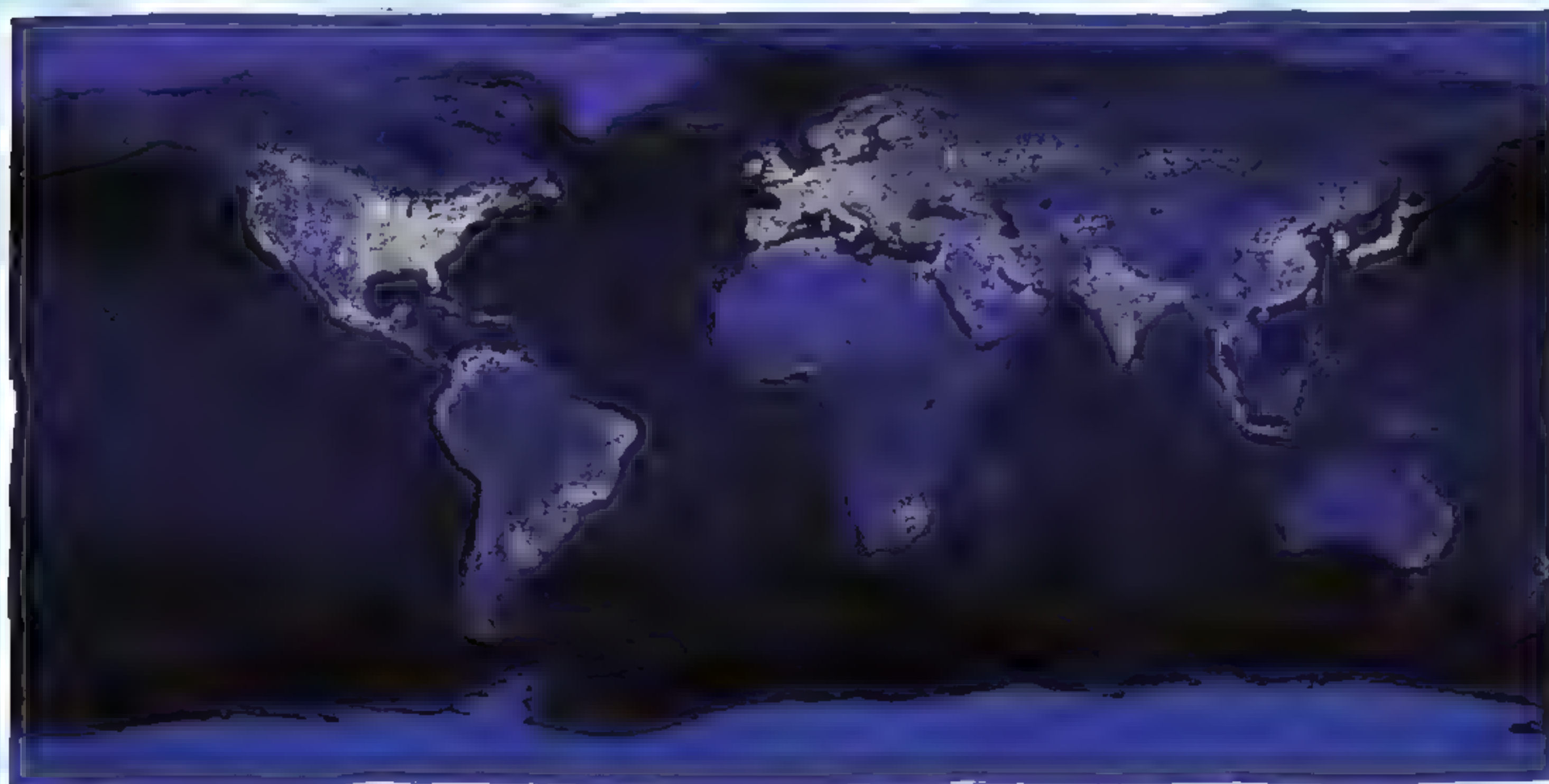
These are the world's  
**seven** big areas  
of land. Ready?  
**Let's go!**

There are more  
than 20 countries  
in North America.

**1**  
North  
America

Bright lights at night

This is what the continents would look like from space if  
it were night everywhere. All those **lights** are busy cities!



**2**  
South  
America





Asia is the **BIGGEST** continent.

**5**  
**Asia**

More than half of  
the people in the  
world live in Asia.

**4**  
**Europe**

**3**  
**Africa**

**6**  
**Australia**

Australia is the **SMALLEST** continent.

Brrr! Antarctica is  
the driest, emptiest,  
and coldest place  
on Earth.

**7**  
**Antarctica**







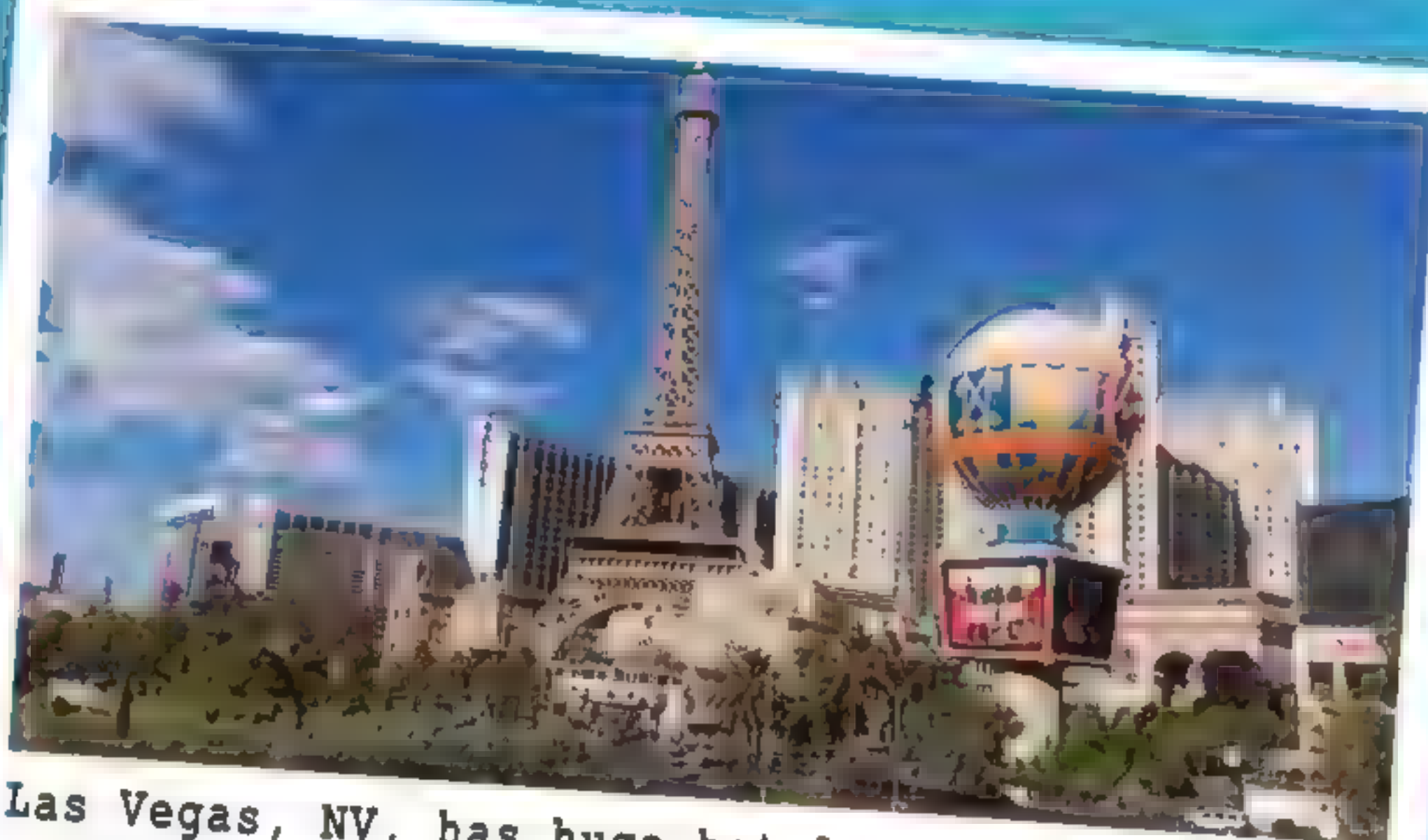
# Postcards from North America



There are 23 countries in North America.

They can be hot, cold, small, or BIG, but they're all full of **interesting** people and places.

Pacific Ocean



Las Vegas, NV, has huge hotels and spectacular sights. It may be a big, bustling city, but it's also in the middle of a desert!



Life on every Caribbean island is different, but there's always plenty of sun and lots of beautiful beaches.



The "Day of the Dead" is an important event in Mexico. People wear colorful costumes.





This island is called Greenland.

It's very cold!

Atlantic Ocean

Canada is the largest country in North America.

CANADA

Space Needle

Mount Rushmore

New York

UNITED STATES OF AMERICA

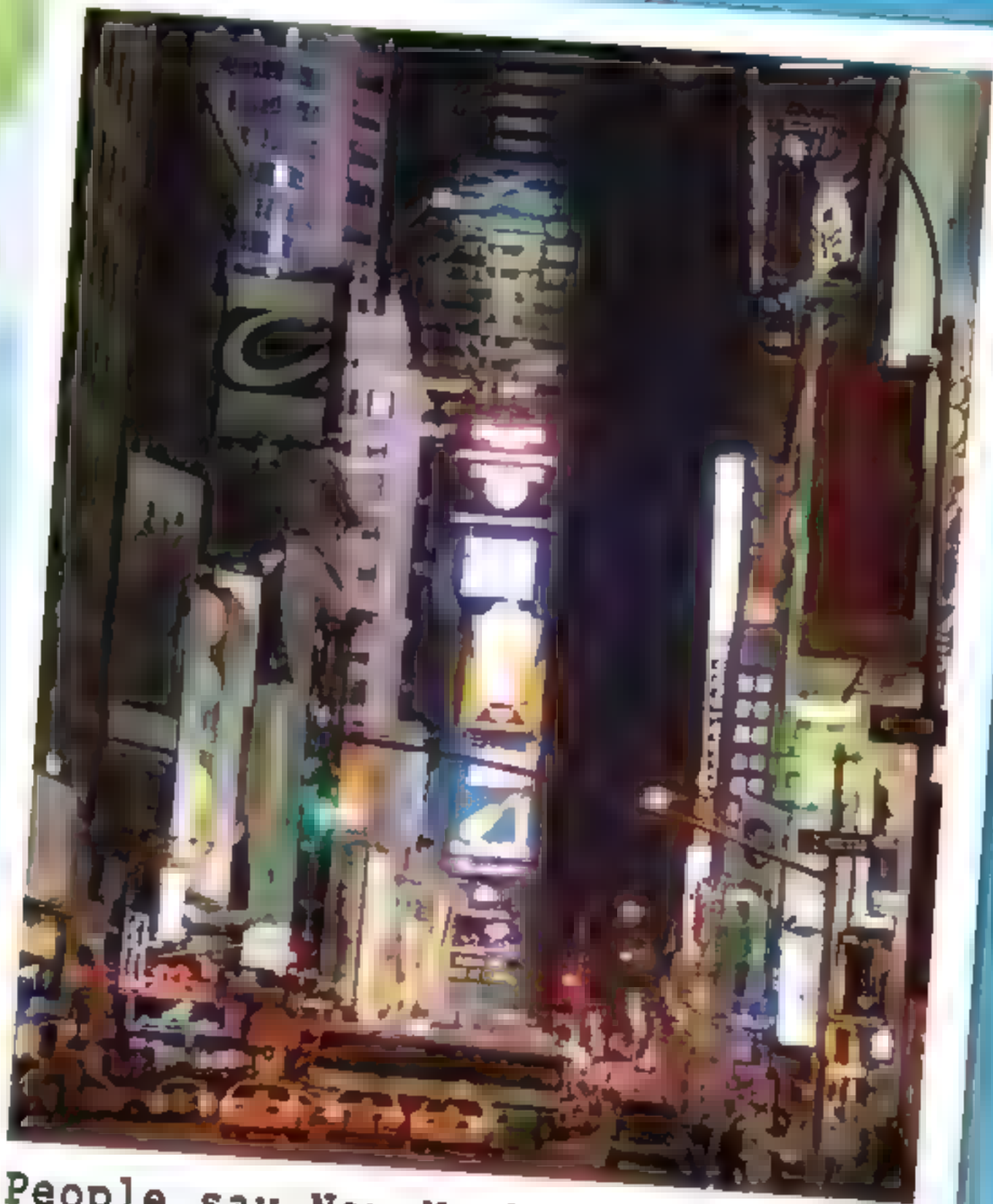
Las Vegas

MEXICO

El Castillo

The USA has the most people in North America.

Caribbean islands

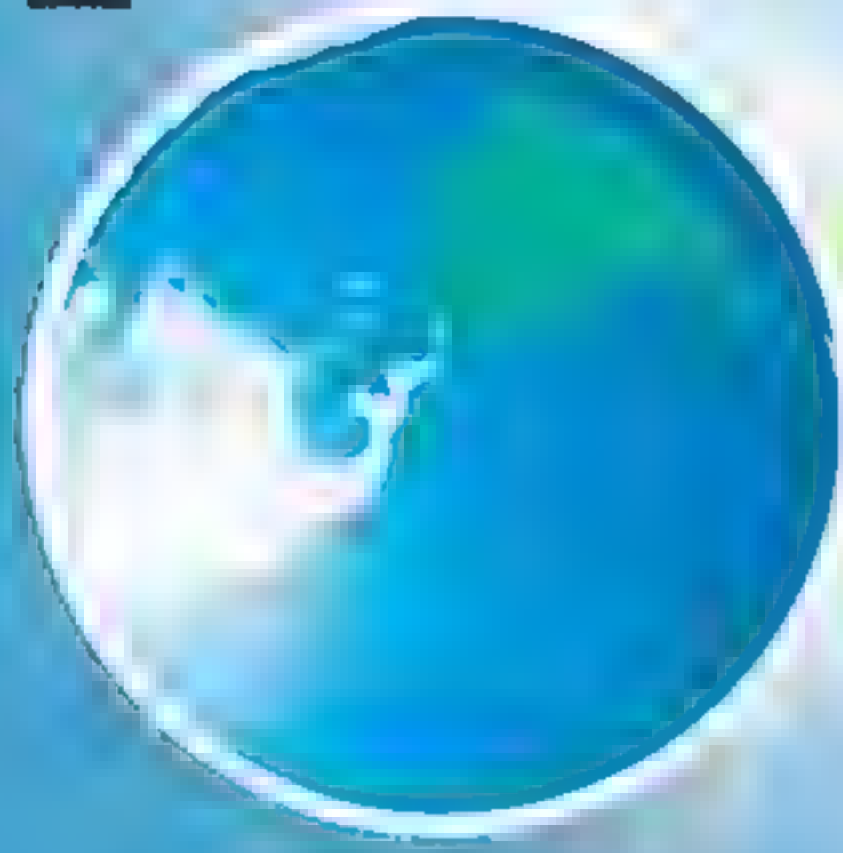


People say New York City, NY, "never sleeps" because there's always so much going on.

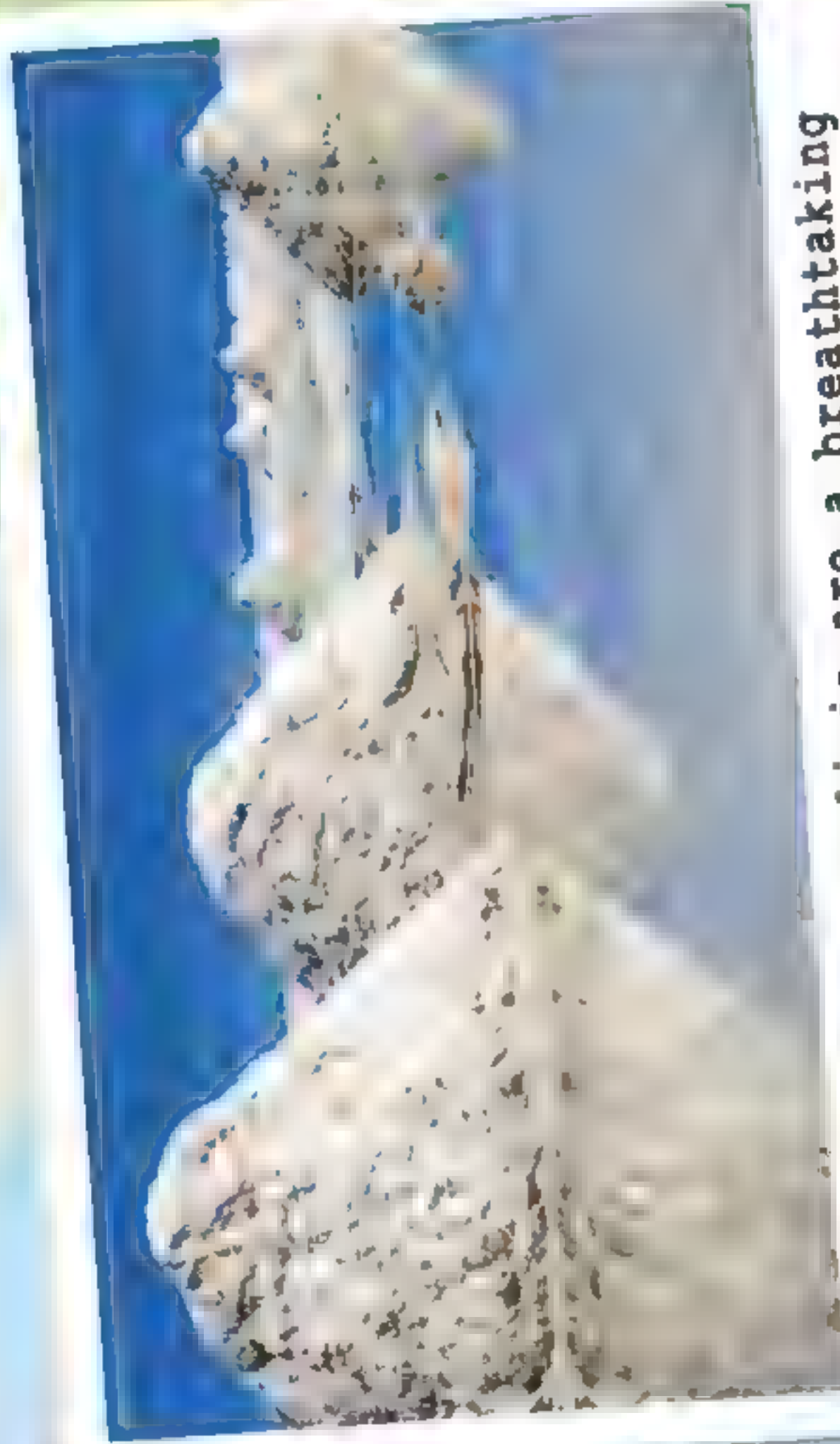


# Postcards from

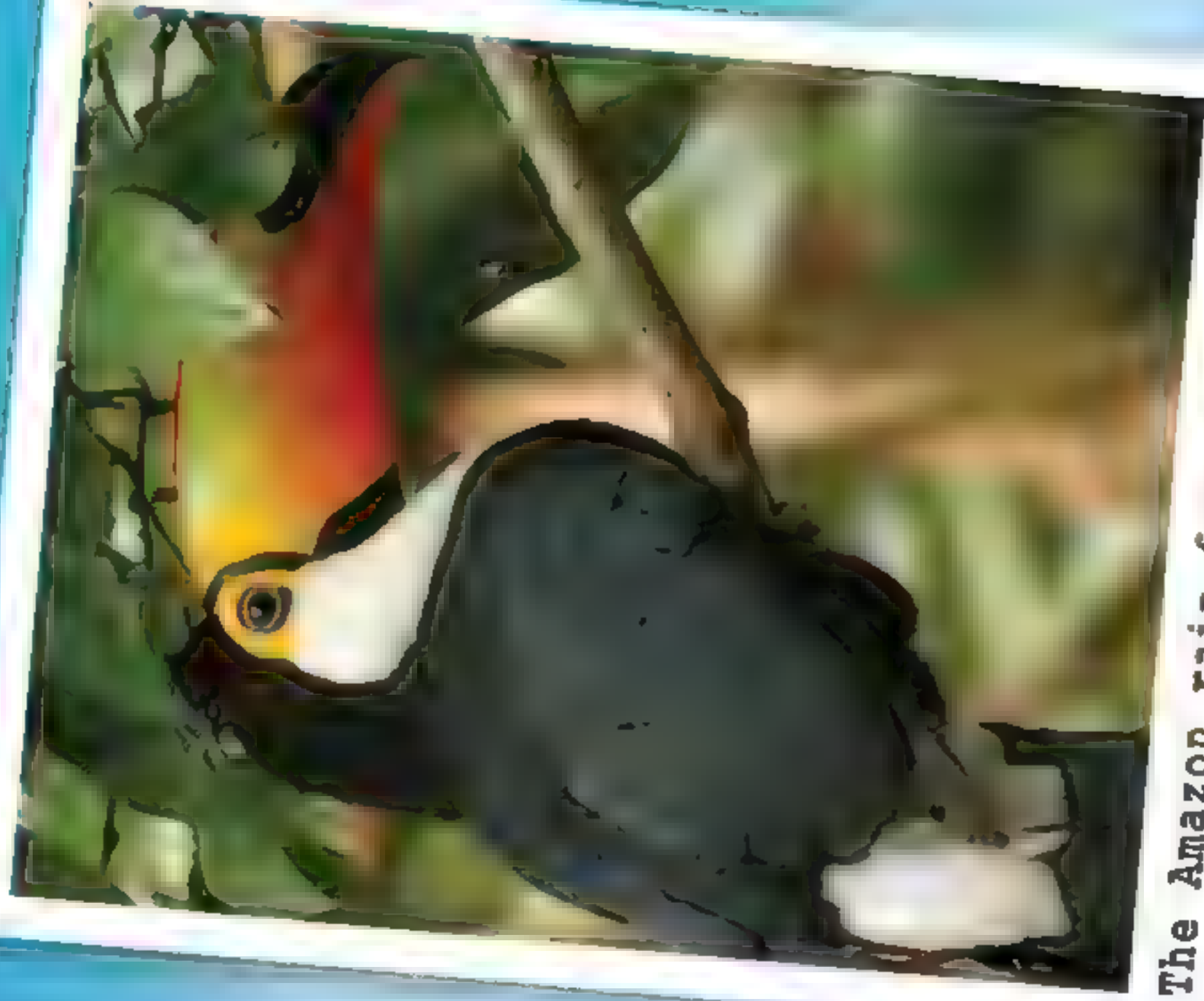
## South America



Rain forests, rivers, and mountains are just some of the things you'll see on this amazing, beautiful continent.



The salt flats of Bolivia are a breathtaking sight. The salt creates an amazing mirror effect on the ground.



The Amazon rain forest is full of animals. It's so big it covers parts of nine countries.



PERU



Pacific Ocean



An old Inca city called Machu Picchu in Peru was forgotten about for hundreds of years. Now people trek up the mountains to see it.

BOLIVIA



Buenos Aires

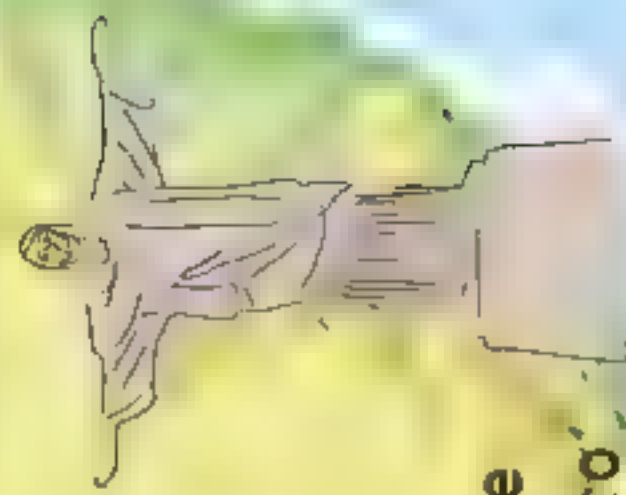


Buenos Aires is the capital of Argentina. It has many colorful buildings.



Cathedral of Brasilia

Christ the Redeemer



Rio de Janeiro

BRAZIL

Atlantic Ocean



Every year there is a lively carnival in the Brazilian city of Rio de Janeiro.



Spanish is the official language of many South American countries, but they speak Portuguese in Brazil.





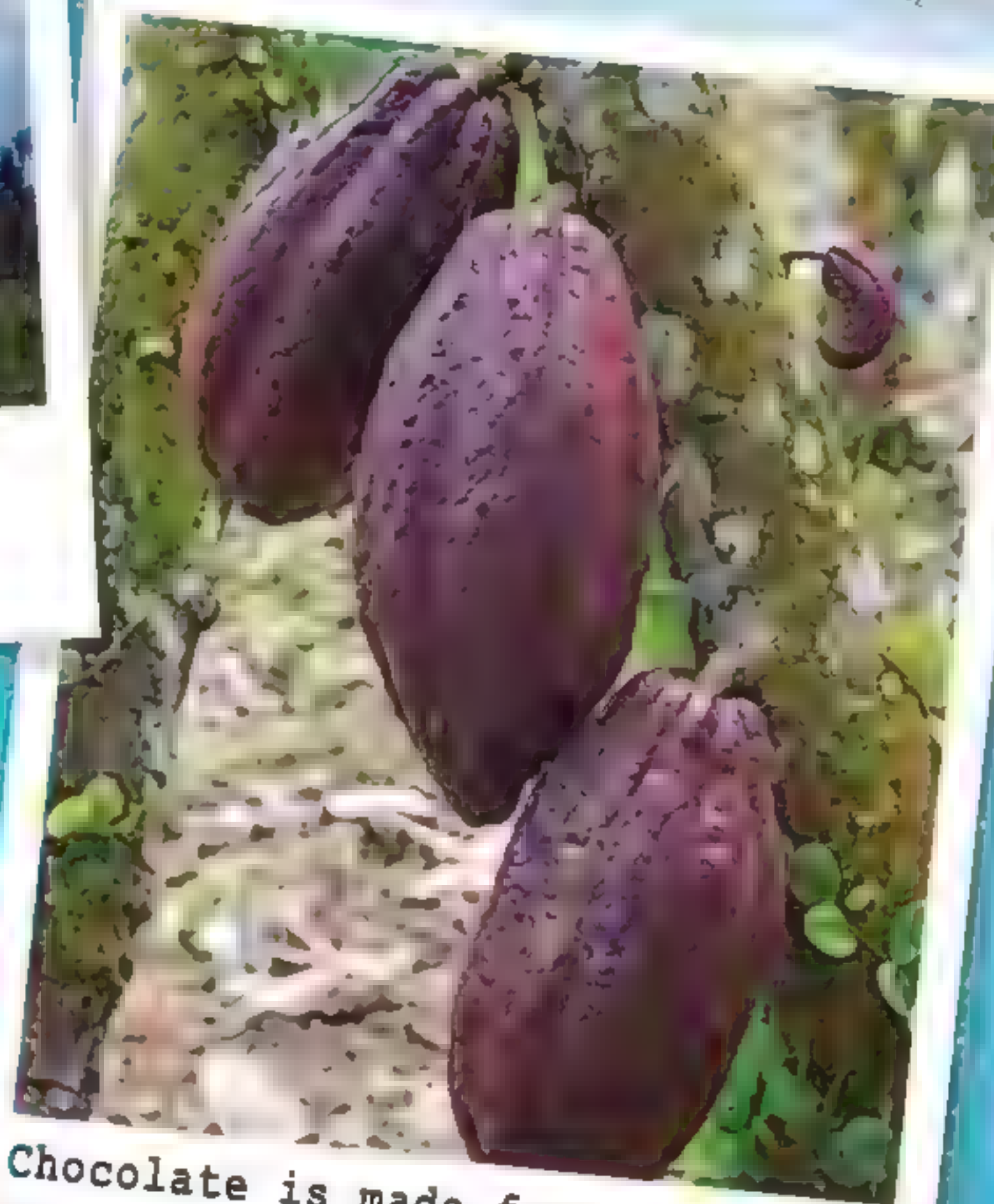
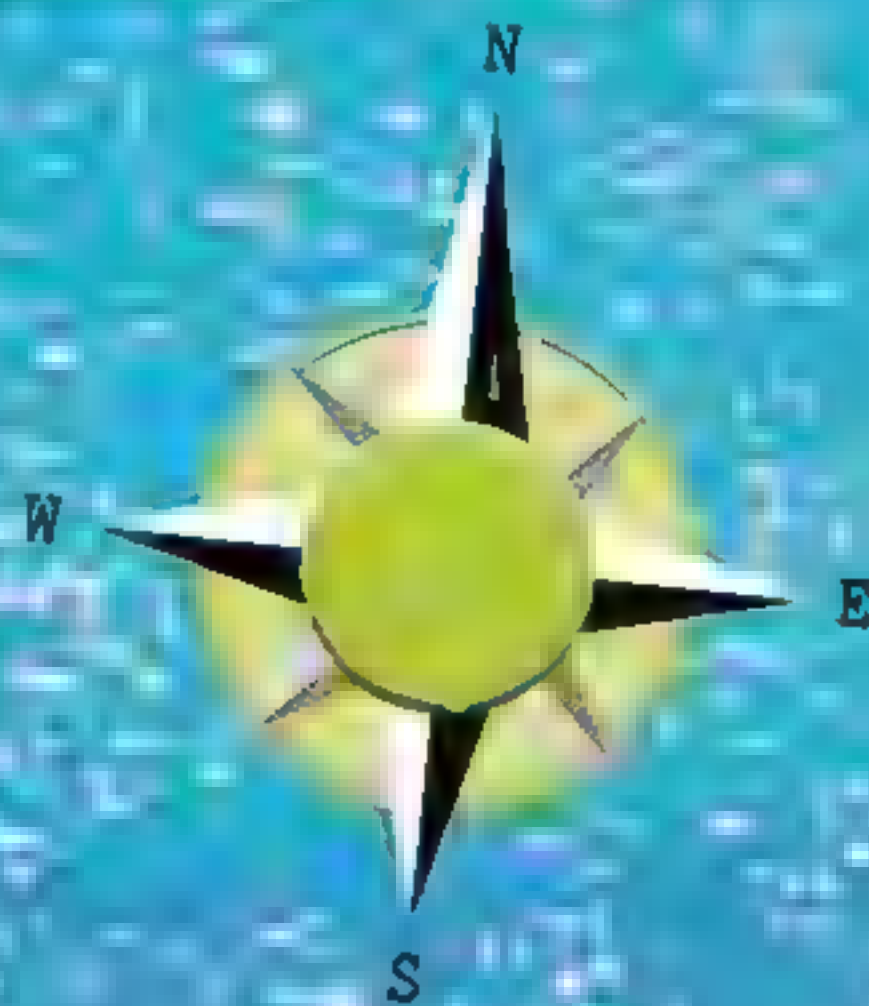
# Postcards from Africa

Africa is bursting with **life**.

It has rain forests and deserts, many countries, millions of people, thousands of languages, and astonishing animals.



Marrakesh in Morocco is sometimes called the Red City because many of its buildings were built using red sandstone.

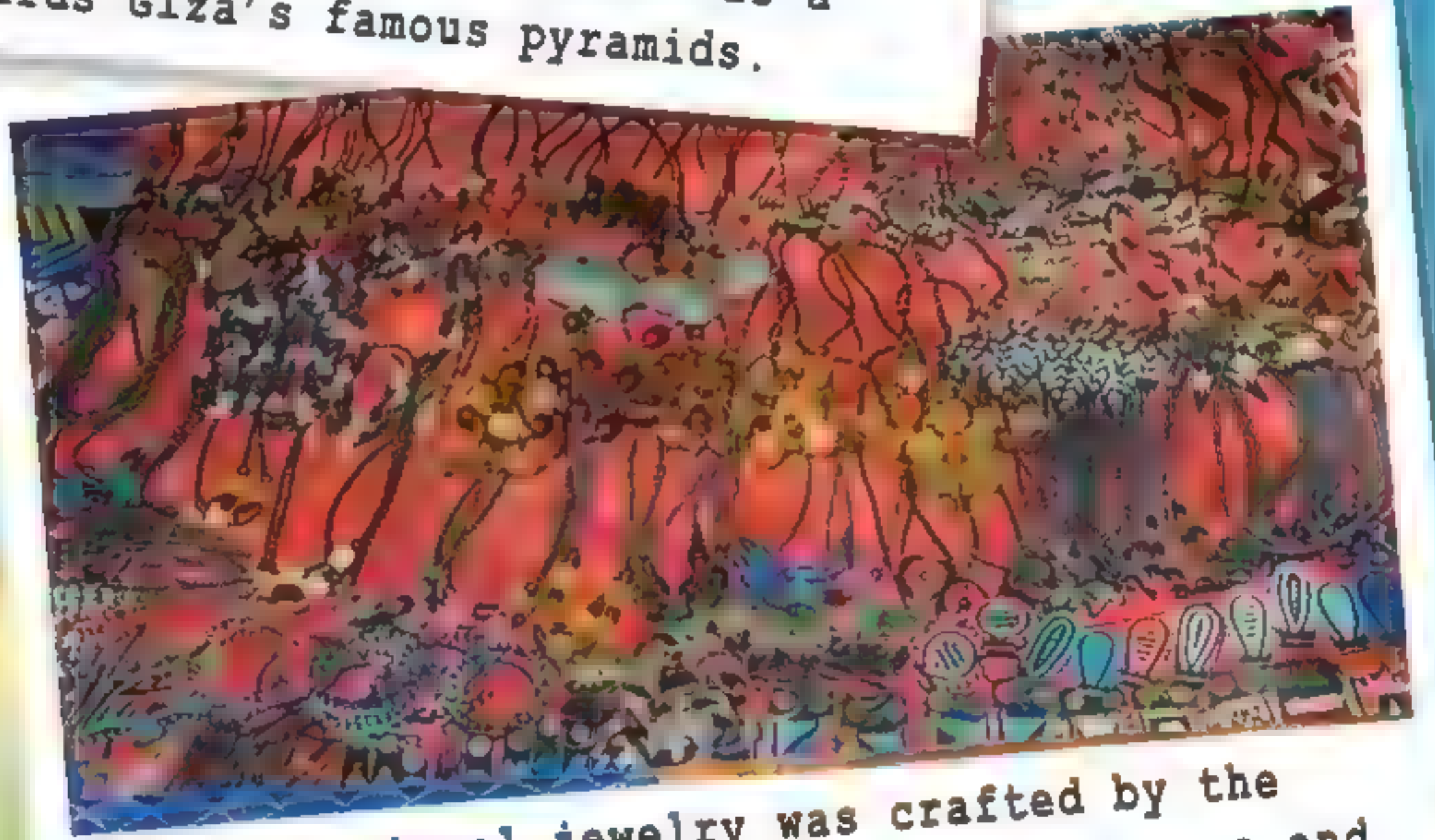


Chocolate is made from the cocoa beans inside cacao pods. They grow in West African forests.





The Sphinx is a mythical creature with a lion's body and a human head. The Great Sphinx is a statue that guards Giza's famous pyramids.



This traditional jewelry was crafted by the Masai people, who come from Southern Kenya and Northern Tanzania.



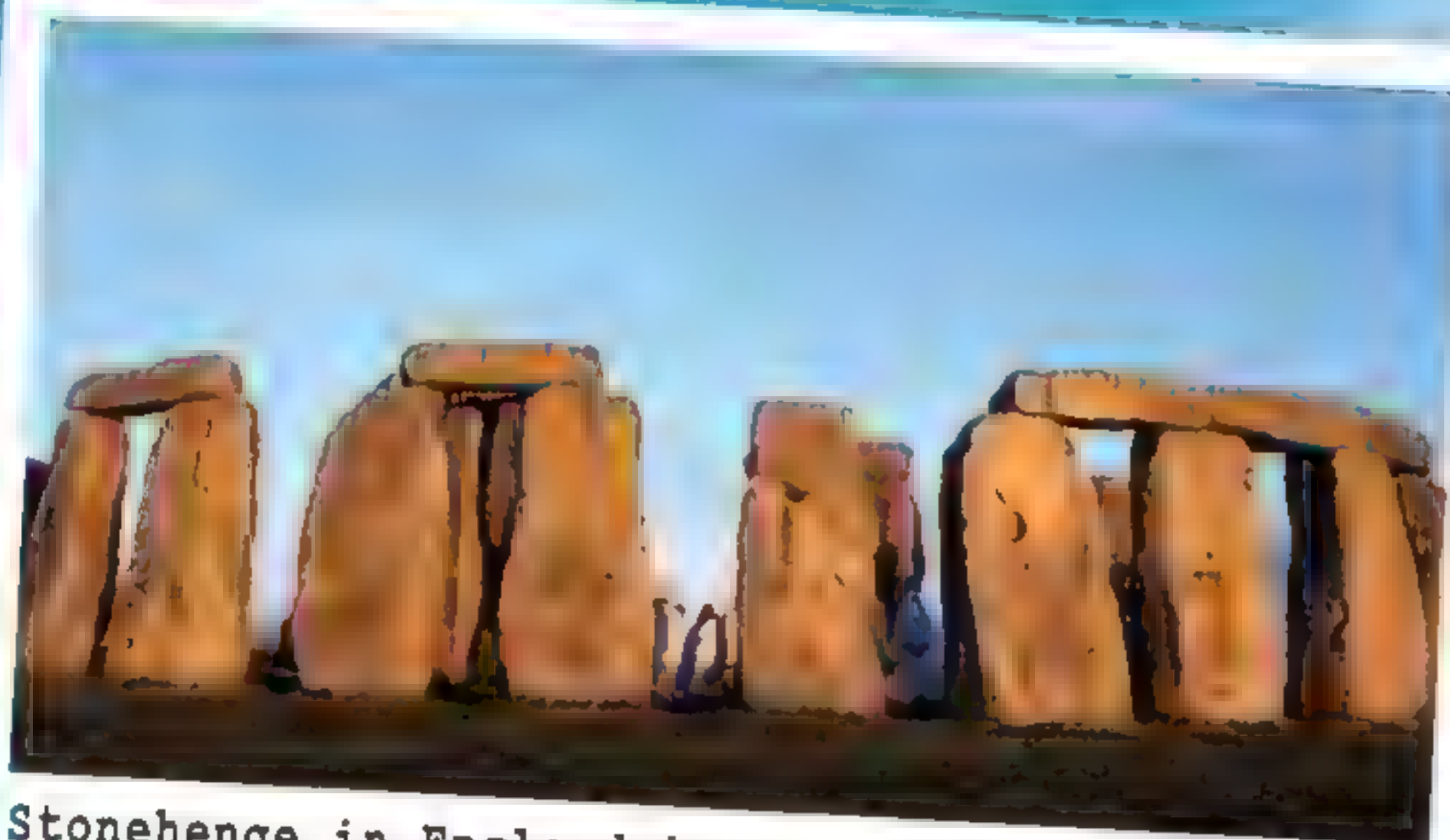
Many animals and plants, such as this lemur, are only found on the island of Madagascar.



# Postcards from Europe



It may be small compared to other continents, but Europe is packed with amazing **cities**, **people**, and **sights** to discover.



Stonehenge in England is a huge mystery! It was built thousands of years ago from giant stones. Nobody knows for sure how or why it was made.



Based in the city of Rome in Italy, the Vatican is the world's smallest country. It's the home of the Pope, the leader of the Catholic Church.

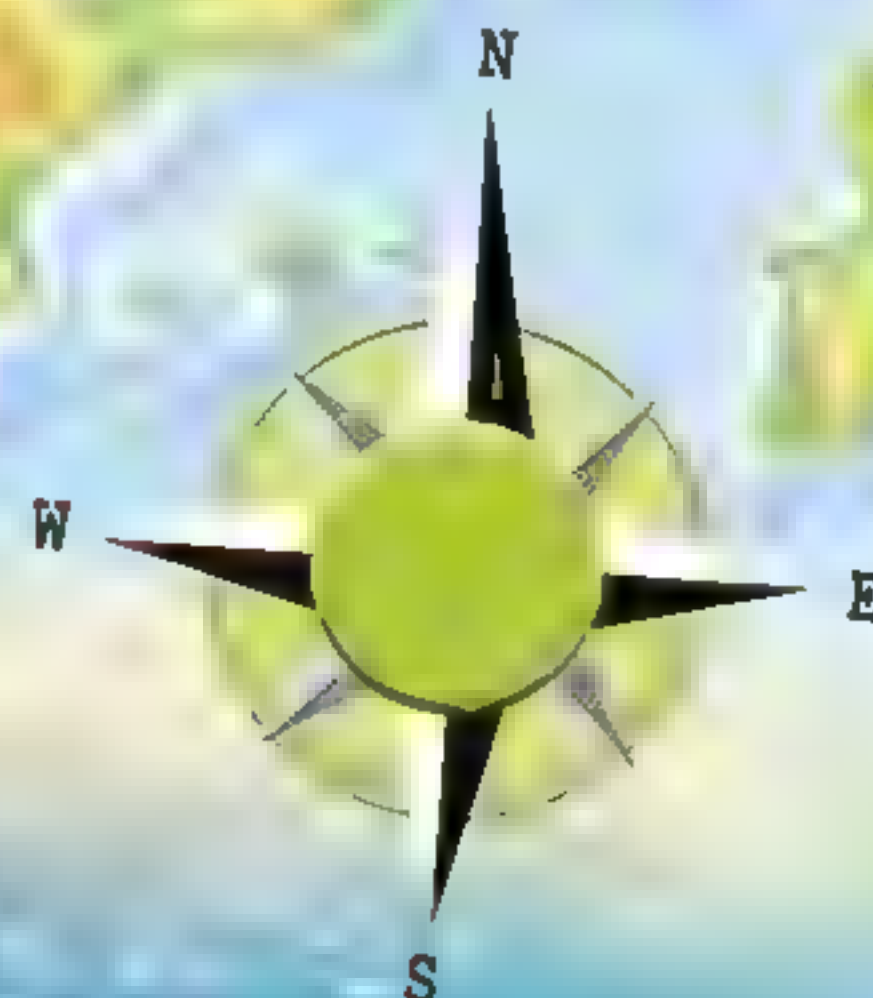
Atlantic Ocean

Big Ben

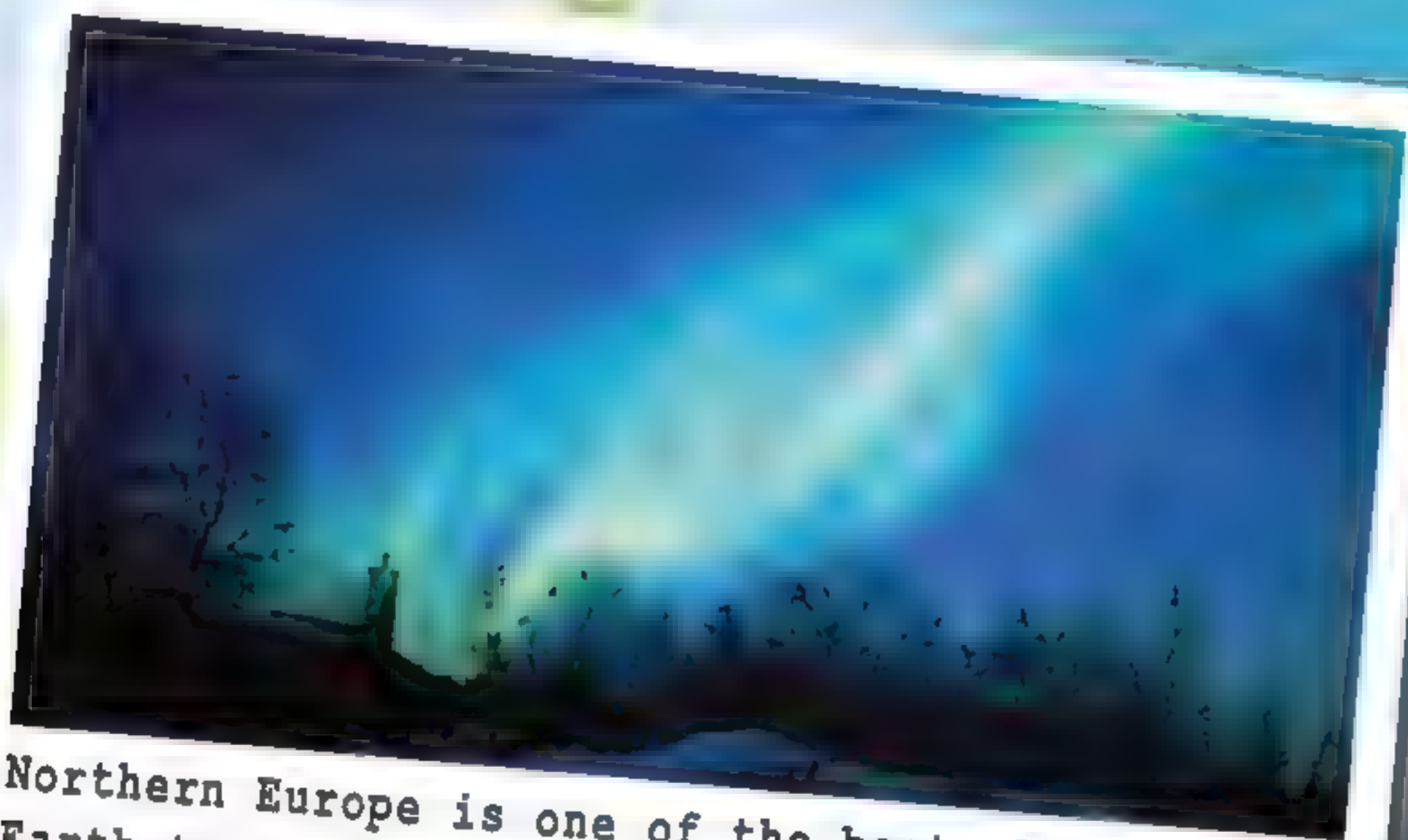
Eiffel Tower

The Alps

Rome

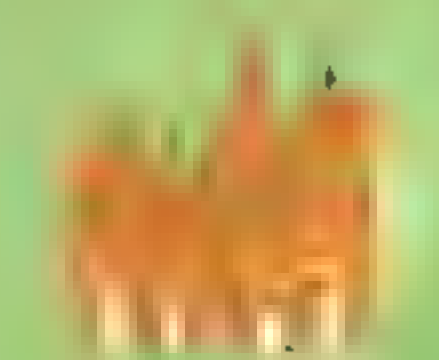






Northern Europe is one of the best places on Earth to see the Aurora Borealis, a spectacular display of natural lights.

Europe has around 50 official languages.



St. Basil's Cathedral



People used to say that Bran Castle in Romania was the castle of Count Dracula.

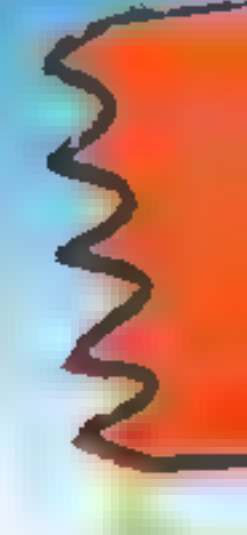
ROMANIA

Mediterranean Sea



Many people travel to the Alps—a mountain range that covers eight countries—to ski, snowboard, and go hiking through the mountains.

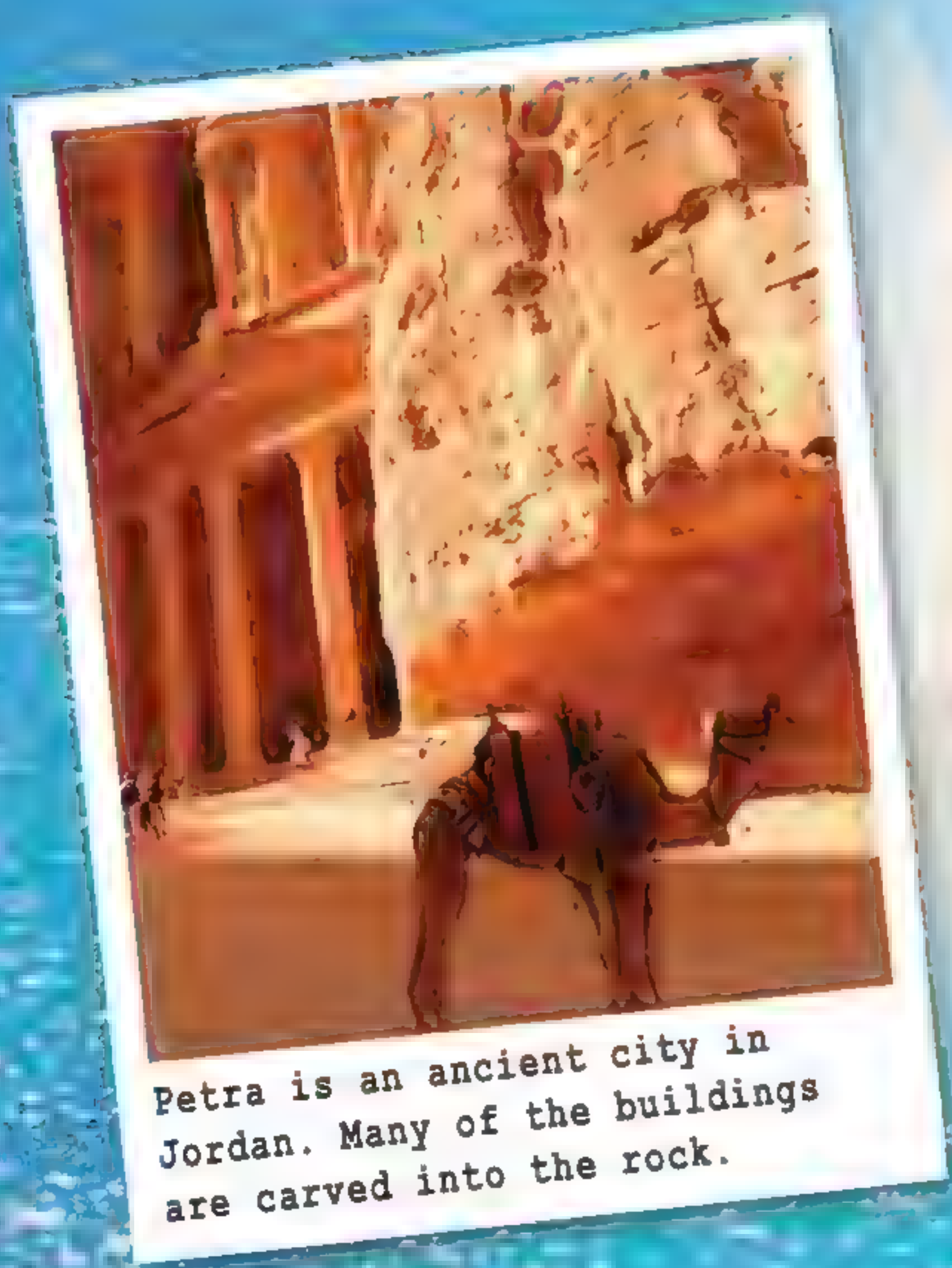




# Postcards from Asia



Asia is the **BIGGEST** continent and it has the most people by far. It's also one of the most diverse continents.



Petra is an ancient city in Jordan. Many of the buildings are carved into the rock.





Most of Russia  
is in Asia.

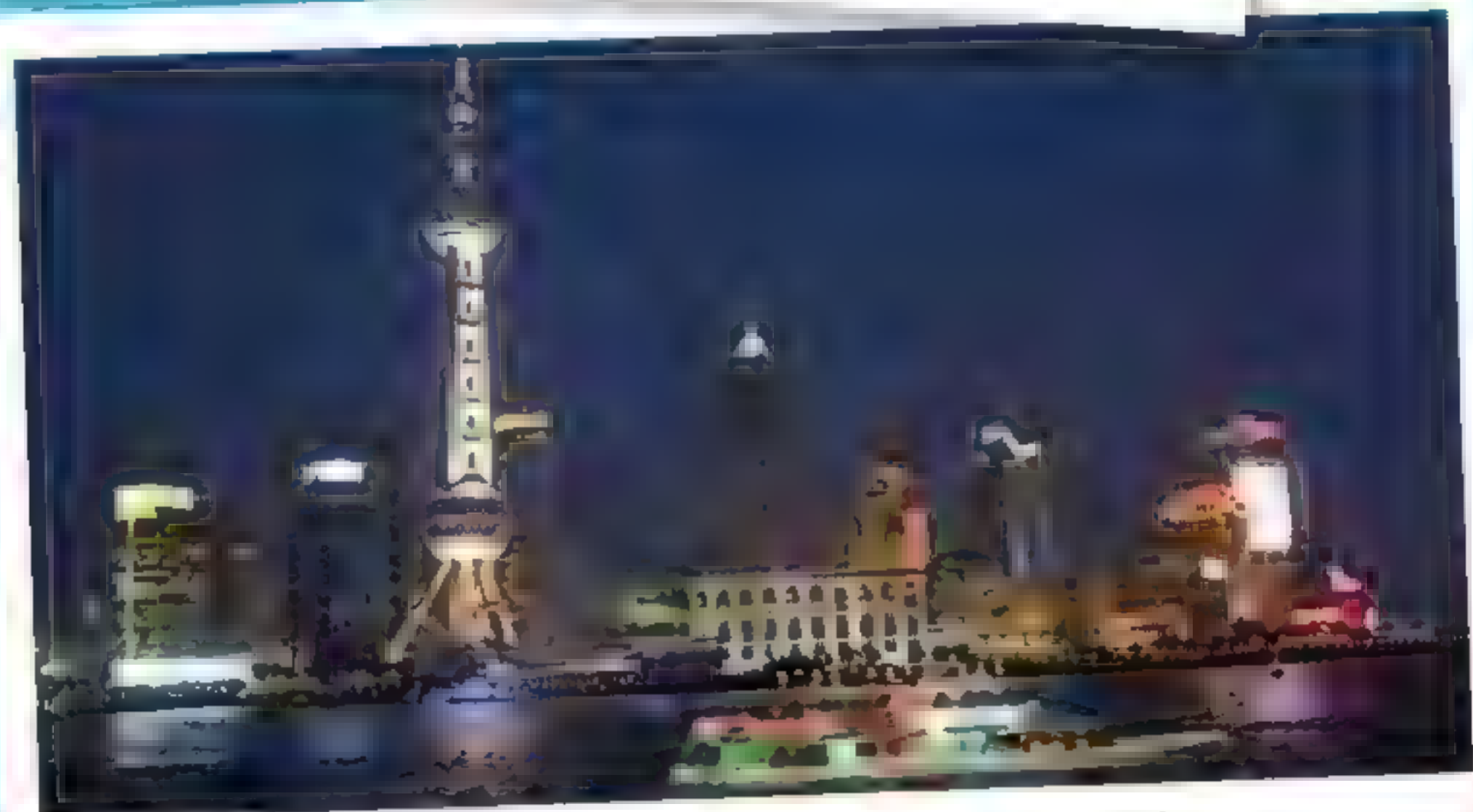


Tokyo is the capital city of Japan. On clear days you can see Mount Fuji from there, even though it's nearly a hundred miles away.



Tokyo  
Tower

JAPAN



More than a billion people live in China. That's more than ALL the people in Europe. Shanghai is one of China's biggest cities.

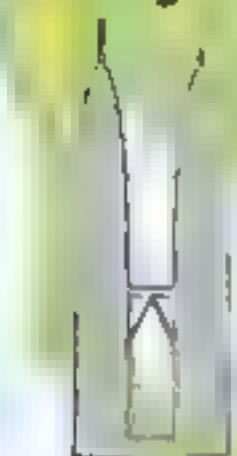


Great Wall  
of China

CHINA



Bangkok



Petronas  
Towers



Some people travel by water through Bangkok in Thailand. There are even riverboat markets.





# Postcards from Australia

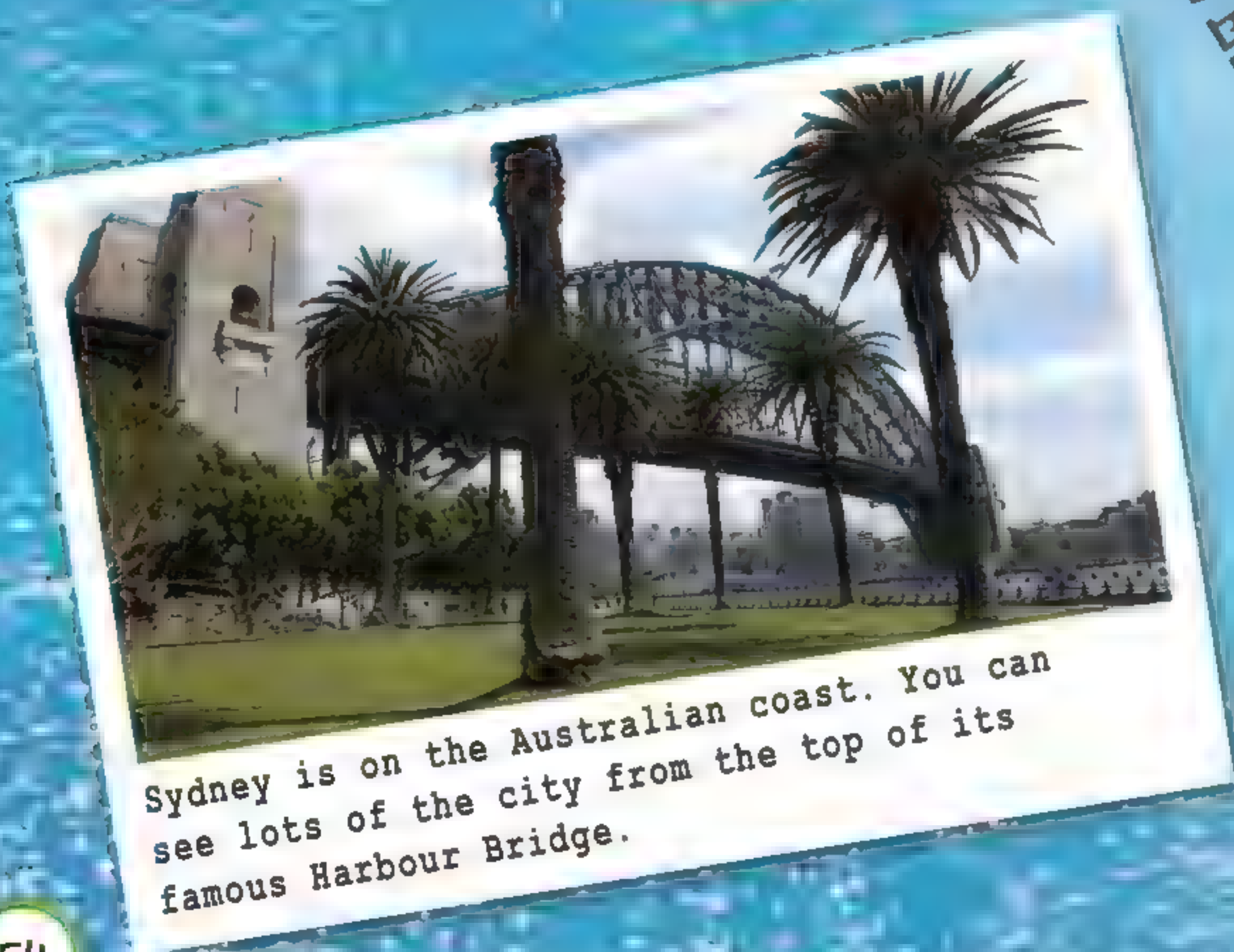


The continent of Australia is made up of the country Australia and a few island countries nearby.

RUGBY



SPORT ALL OVER



Sydney is on the Australian coast. You can see lots of the city from the top of its famous Harbour Bridge.

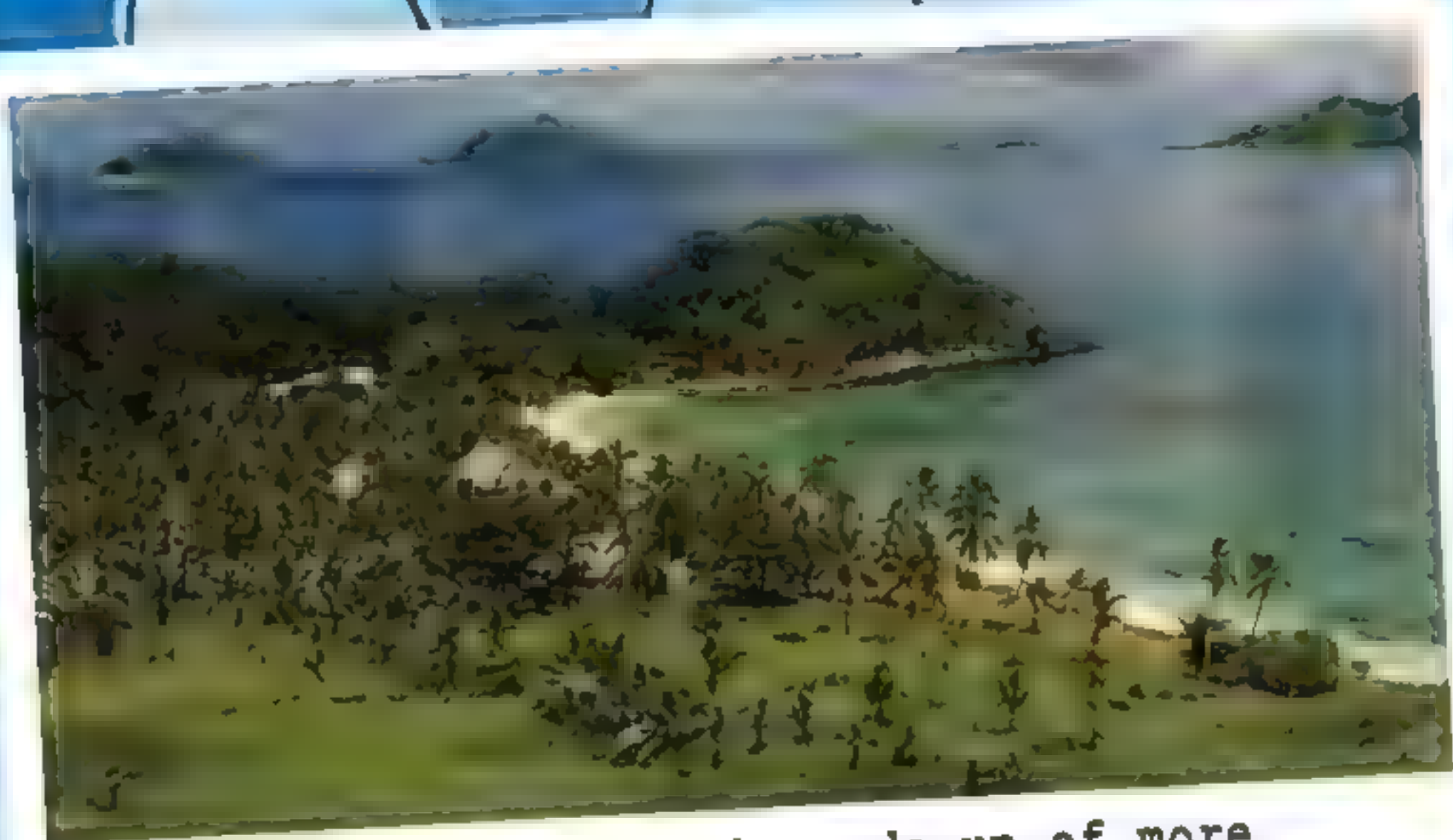


Most people in Australia live by the coast.

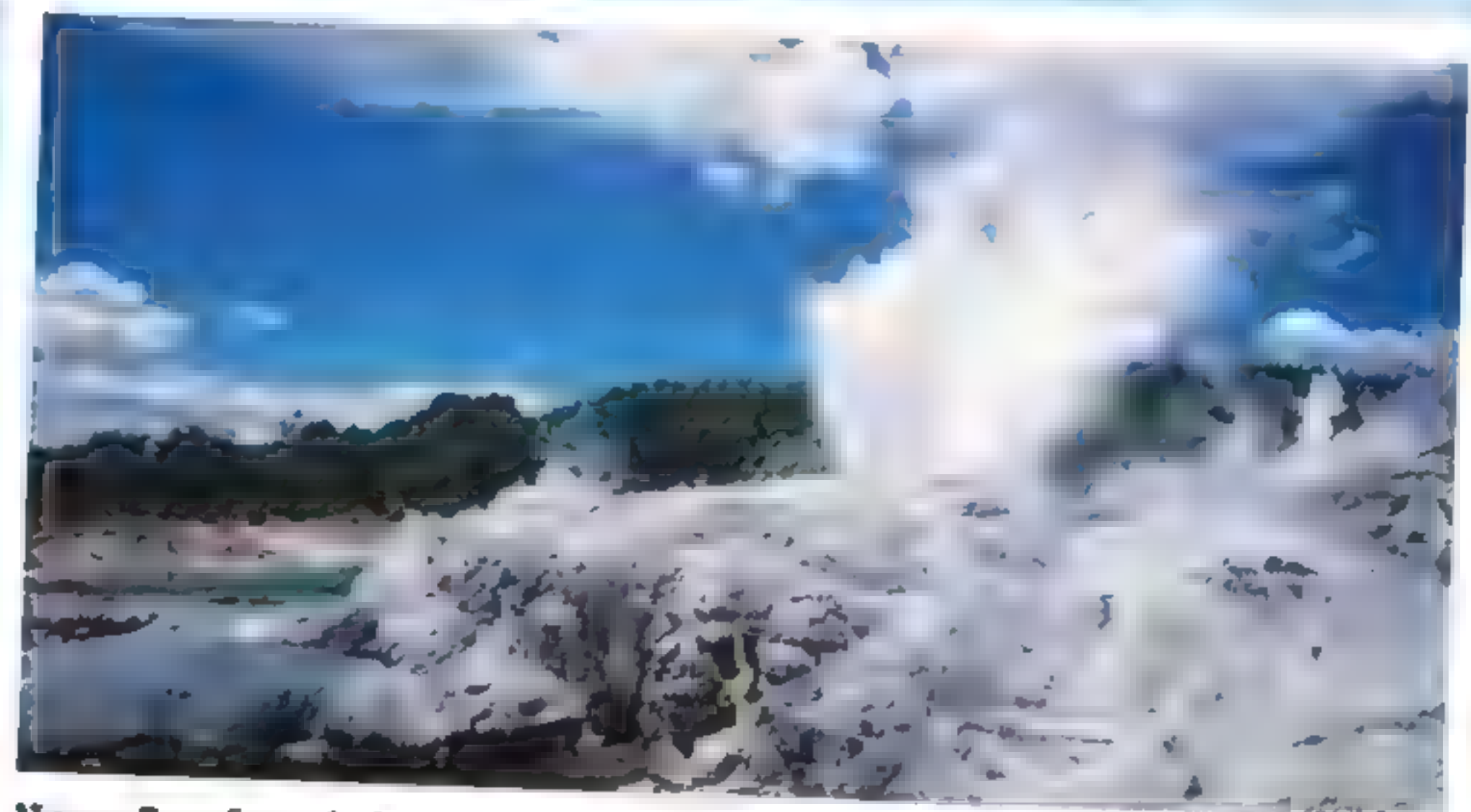
Uluru

Indian Ocean





Fiji is a country that is made up of more than 330 islands. Around 110 of these have nobody living on them.



New Zealand has two main islands. The North island has geysers that shoot out steam!

This is the largest coral reef in the world.

Great Barrier Reef

AUSTRALIA

Sydney Opera House

NEW ZEALAND





# Postcards from Antarctica

It's a big **continent** with almost no people or animals. Why not, you ask? Well, it's very, **VERY cold**.

## Frozen continent

Antarctica's land is mostly covered in snow and ice. At **REALLY** cold times of year, the ocean freezes and the Antarctic gets even bigger.



North Pole  
this way

## Where's the Arctic?

The Arctic (where the North Pole is), is at the other end of the Earth. It's made of ice and a lot of animals live there, but it isn't a continent.

No one lives on  
Antarctica all  
the time.



Antarctica is where  
you'll find the  
South Pole.



N



From the  
South Pole,  
**EVERY**  
direction is  
North!





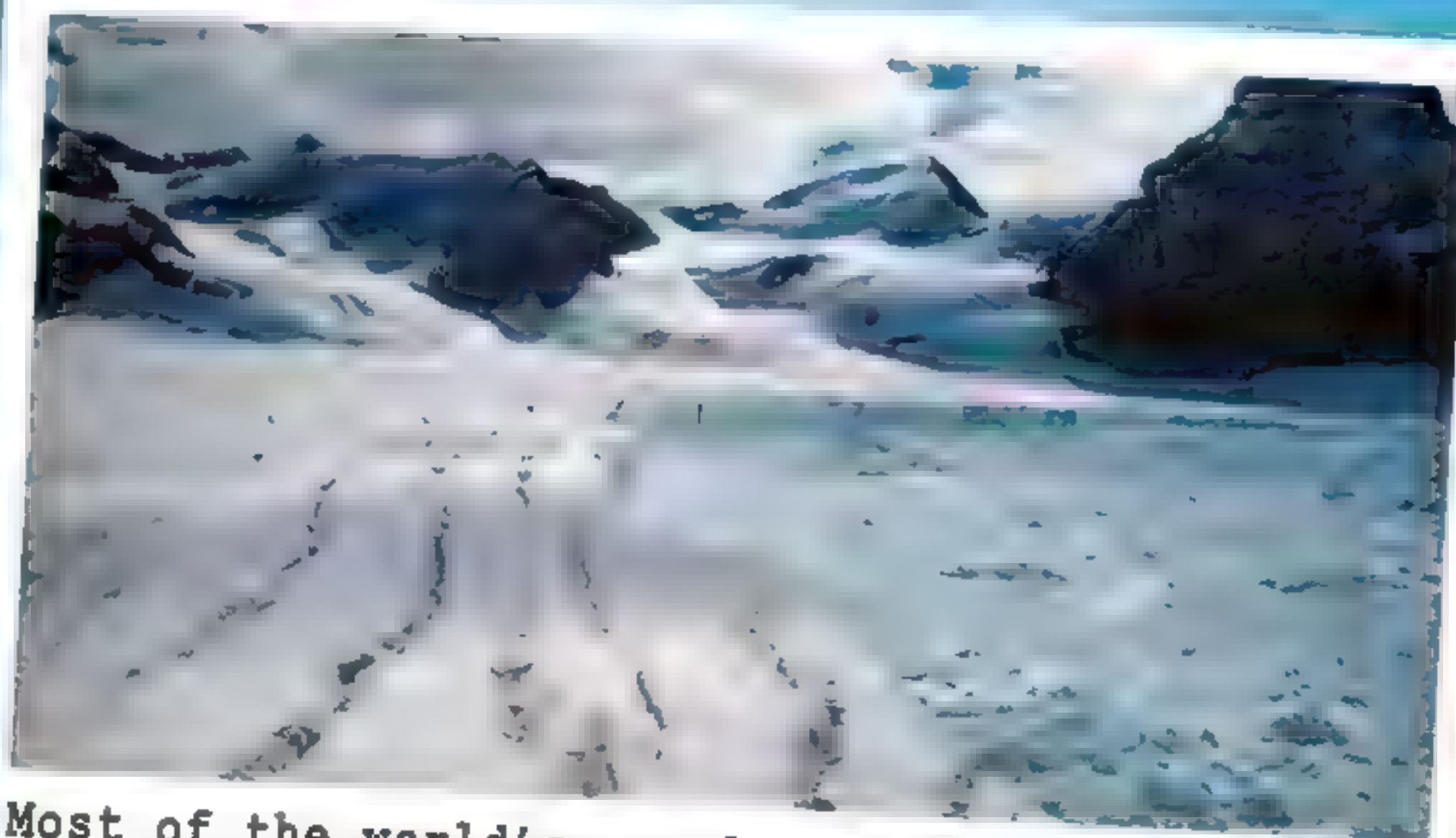
The people who come here are usually scientists. They use special cars to study and travel across the frozen land.



Emperor Penguins are one of few animals that can handle the cold of an Antarctic winter.

It almost  
never rains in  
Antarctica.  
That means  
it's a very  
cold desert!

The South  
Pole



Most of the world's supply of fresh water is frozen in the ice caps of Antarctica.

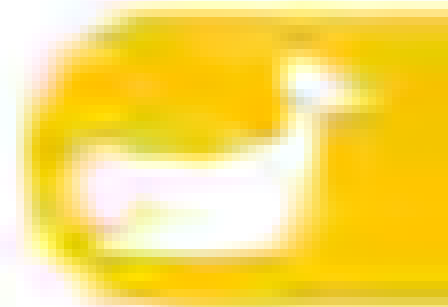


Very important things about





# animals



Animals are the wonderful creatures that share our planet. They include beautiful birds, fantastic fish, marvelous mammals, and so much more. Animals come in all shapes, sizes, and colors, from a **BIG** blue whale, to a **teeny tiny** insect.





# What are animals?

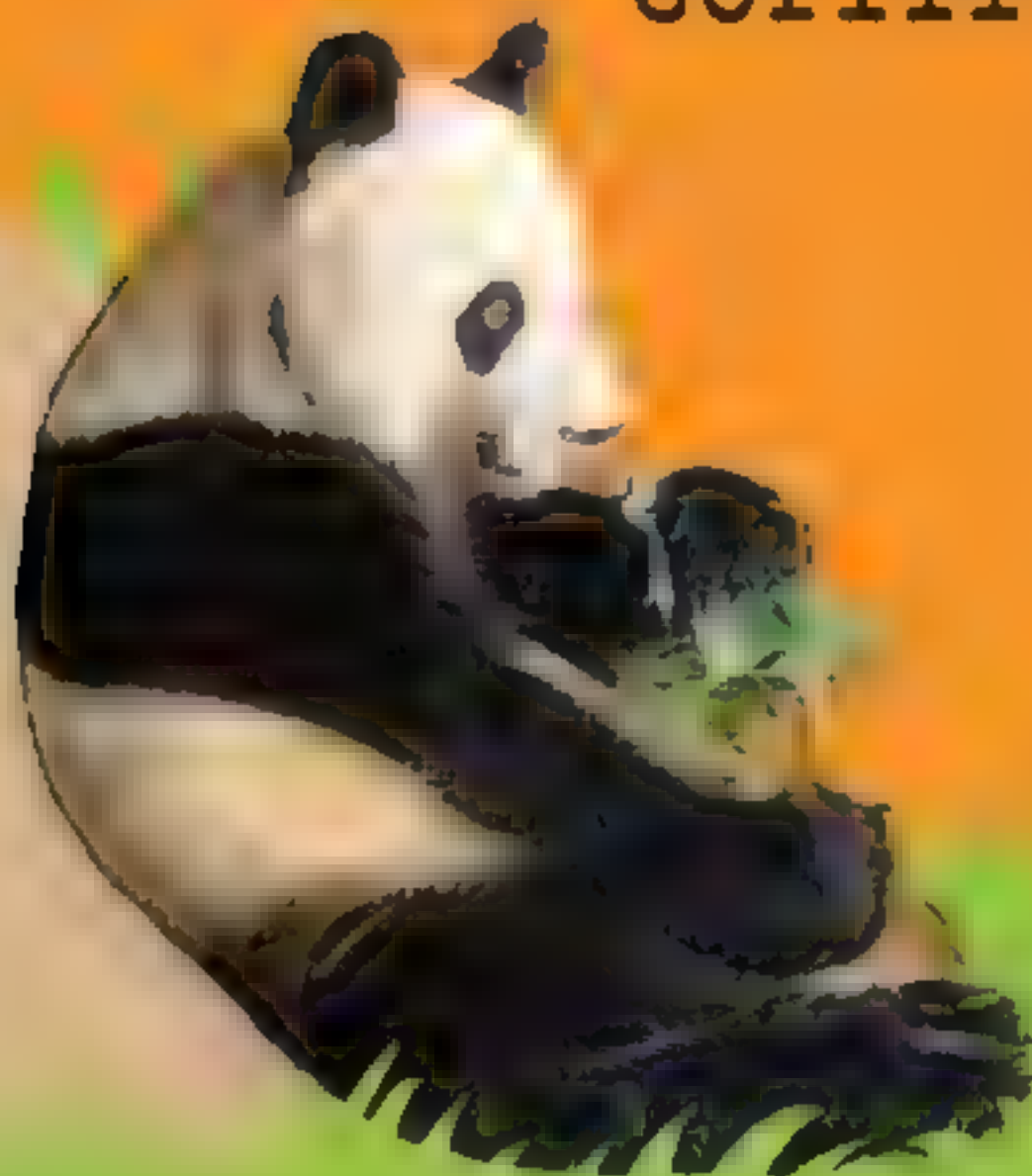
All plants and animals are living things. What makes animals special is they choose to move around and must eat to survive.

## Mammals

If an animal feeds its babies with **milk**, it's a mammal. Most of them have **fur**, but they can all look very different.



Gorilla



Panda

## Birds

Our **feathered friends** are birds. All birds have feathers, but not all of them can **fly**. Some of them can swim and run fast though.



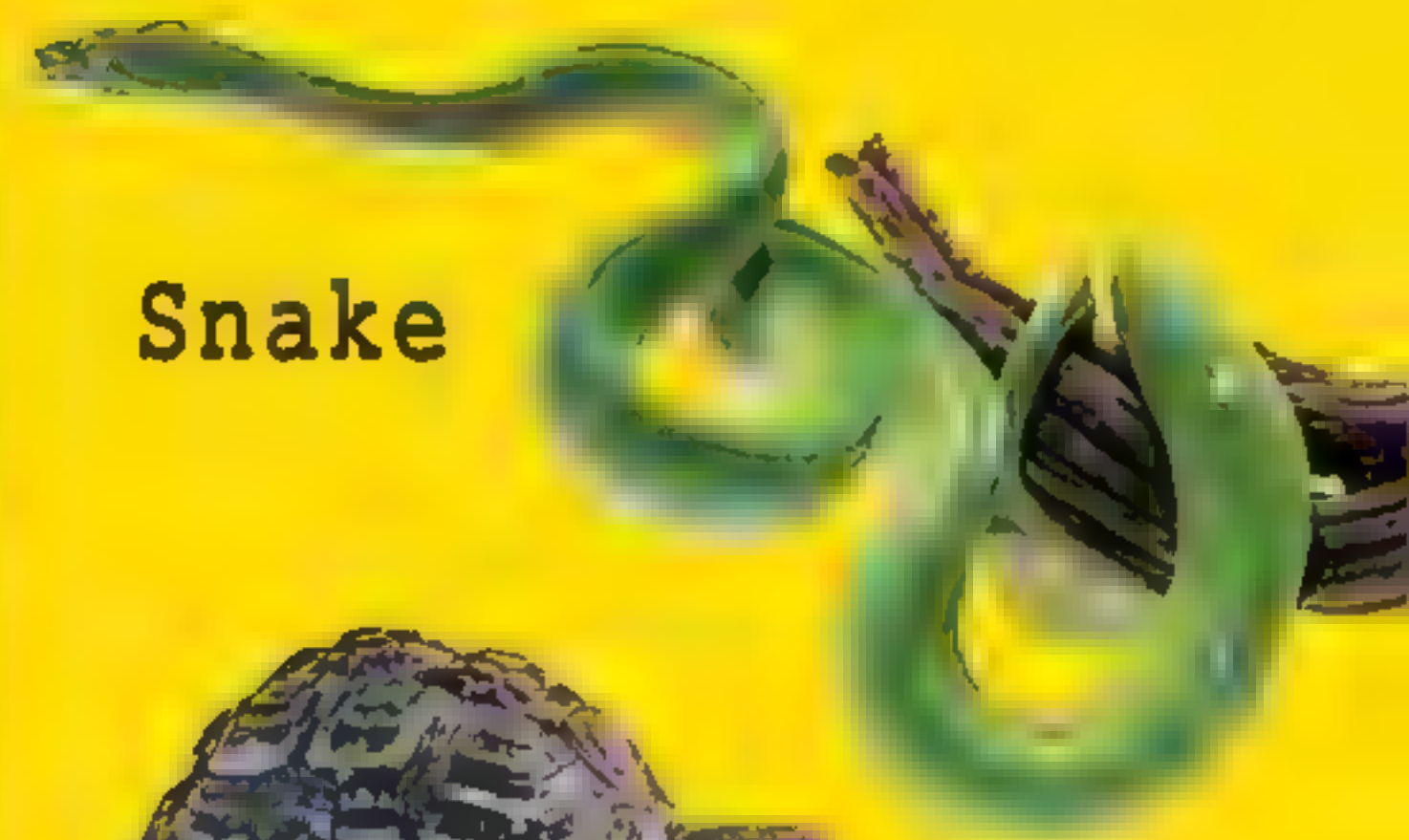
Kingfisher



Flamingo

## Reptiles

These **scaly** creatures are **cold-blooded**. This doesn't mean their blood is cold, it means their bodies can't heat up on their own.



Snake



Tortoise



Alligator

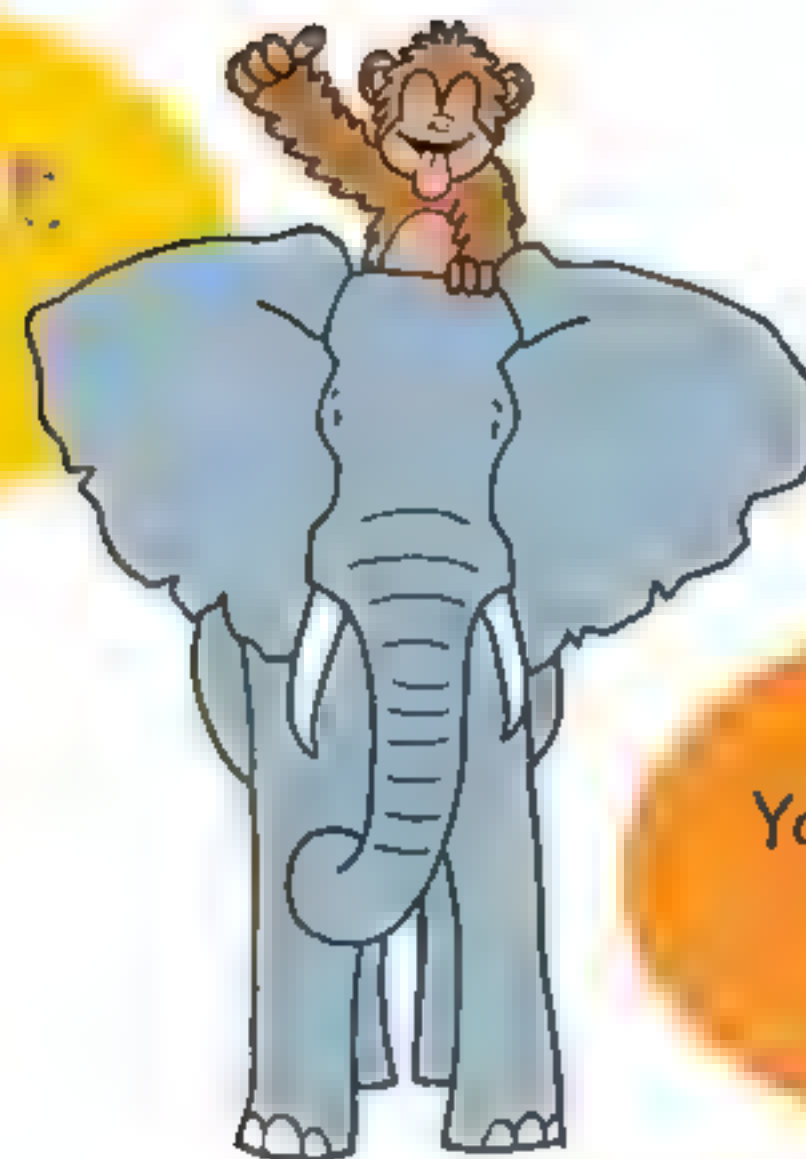


## Type trouble?

Animals come in all shapes and sizes! To make it easier, every animal belongs to a **group**.



What about  
**ME?**



You're a mammal  
like us!

## Amphibians

Most amphibians are born in **water** and grow up to be able to breathe air. As adults they can live in water or on land.



Toad



Frog



Salamander

## Fish

**Fins** help make fish super swimmers! They can be found in oceans, rivers, lakes, ponds, and streams. They breathe in water using **gills**.



Goldfish



Shark



Eel

## Invertebrates

Invertebrates don't have a **backbone**. Most have a shell or a soft body. There are so many different types!



Butterfly



Centipede



Octopus




# Dinosaurs once ruled the Earth

Long before people existed, giant reptiles called **dinosaurs** ruled the Earth for millions of years... but where are they now?

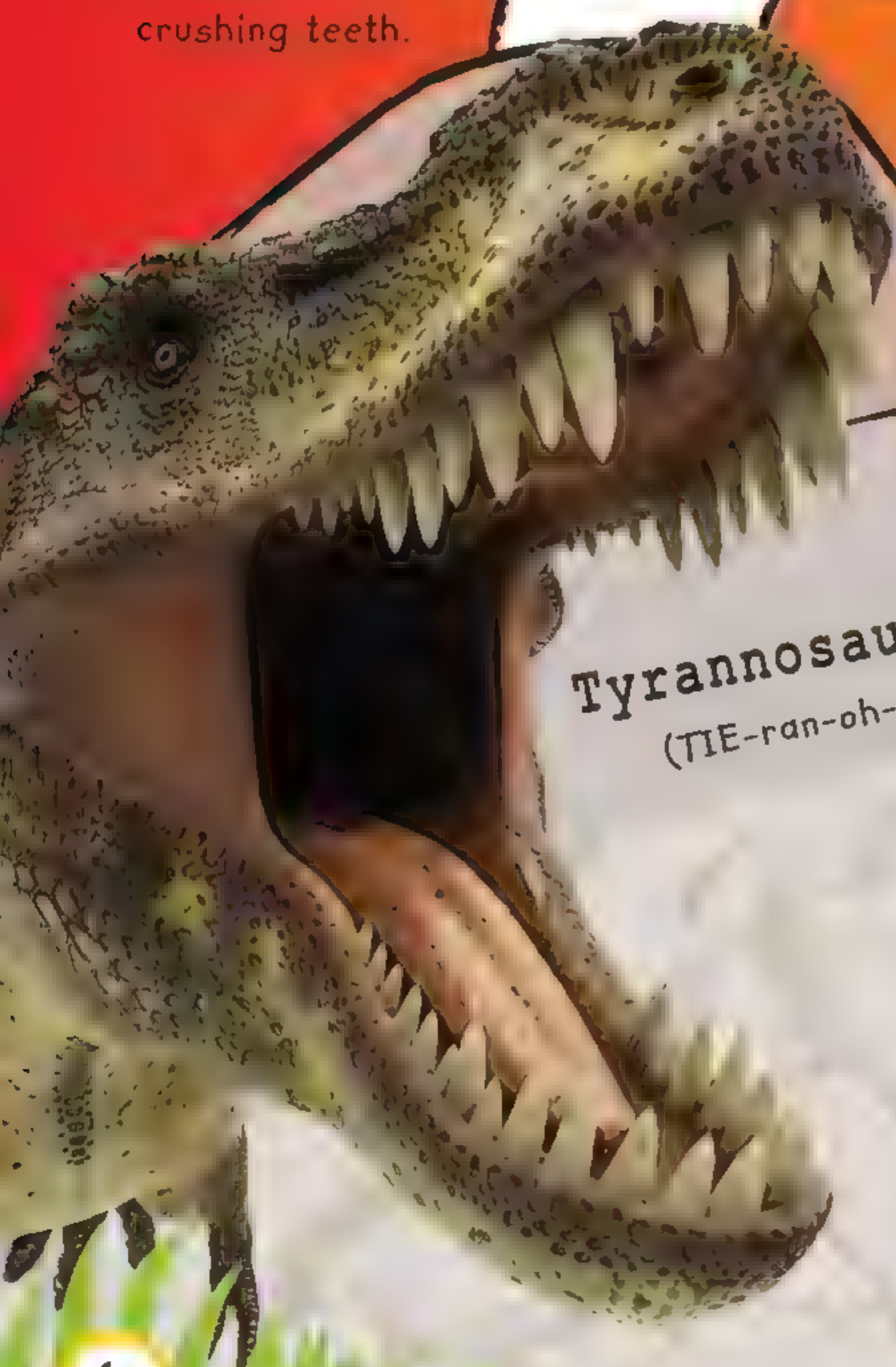
The fearsome T. rex had enormous bone-crushing teeth.

Dinosaurs lived in different time periods, so many of the ones on this page **never met!**




**Sinosauropteryx**  
(SIGH-no-sore-OP-ter-ix)

This dinosaur had feathers but it couldn't fly.



**Tyrannosaurus rex**  
(TIE-ran-oh-SORE-us)

Triceratops means "three-horned face."



**Triceratops**  
(Try-SERRA-tops)



## End of an era

About 66 million years ago, a massive **meteorite** hit the Earth and caused a huge dust cloud that blocked the sun's light. Without it, the dinosaurs couldn't survive.

Why do all of our names have to be so difficult to spell?!

**Therizinosaurus**  
(THERRY-zin-oh-SORE-us)

**Mamenchisaurus**  
(Ma-MEN-chee-SORE-us)

Spiky plates

**Stegosaurus**  
(STEG-oh-SORE-us)

**Velociraptor**  
(Vel-OSS-ee-rap-tor)

## Winged wonder

In 2015 Chinese scientists discovered the remains of a dinosaur called **Zhenyuanlong suni**. It's the biggest winged dinosaur ever discovered, and a relative of the famous Velociraptor.

Don't I look scary?  
I have feathers, jaws,  
and razor-sharp claws.



# Mighty mammals

These clever creatures come in all **shapes** and **sizes**, from the mini mouse to the long-necked giraffe. You're a mammal too—all people are!

This sea giant may look like a big fish, but all whales are mammals.

## Mother's milk

Mammals can seem very different to each other—and they are! But one thing they all have in common is that mammal moms make milk to feed their babies.

Whale



Babies drink milk



Most are furry



Most don't lay eggs



Warm-blooded





I'm your relative! Monkeys, apes, and humans belong to a group called primates.

Monkey and baby

Bats prefer to come out at night.



Bat

We are the only mammals that really fly. Other mammals, such as giant flying squirrels, only glide rather than fly.

Elephants use their trunk like a hand.

Elephant

Bear

Quack quack?

Despite its bill and webbed feet, this is actually a platypus, not a fuzzy duck. It is one of the only mammals that lays eggs.

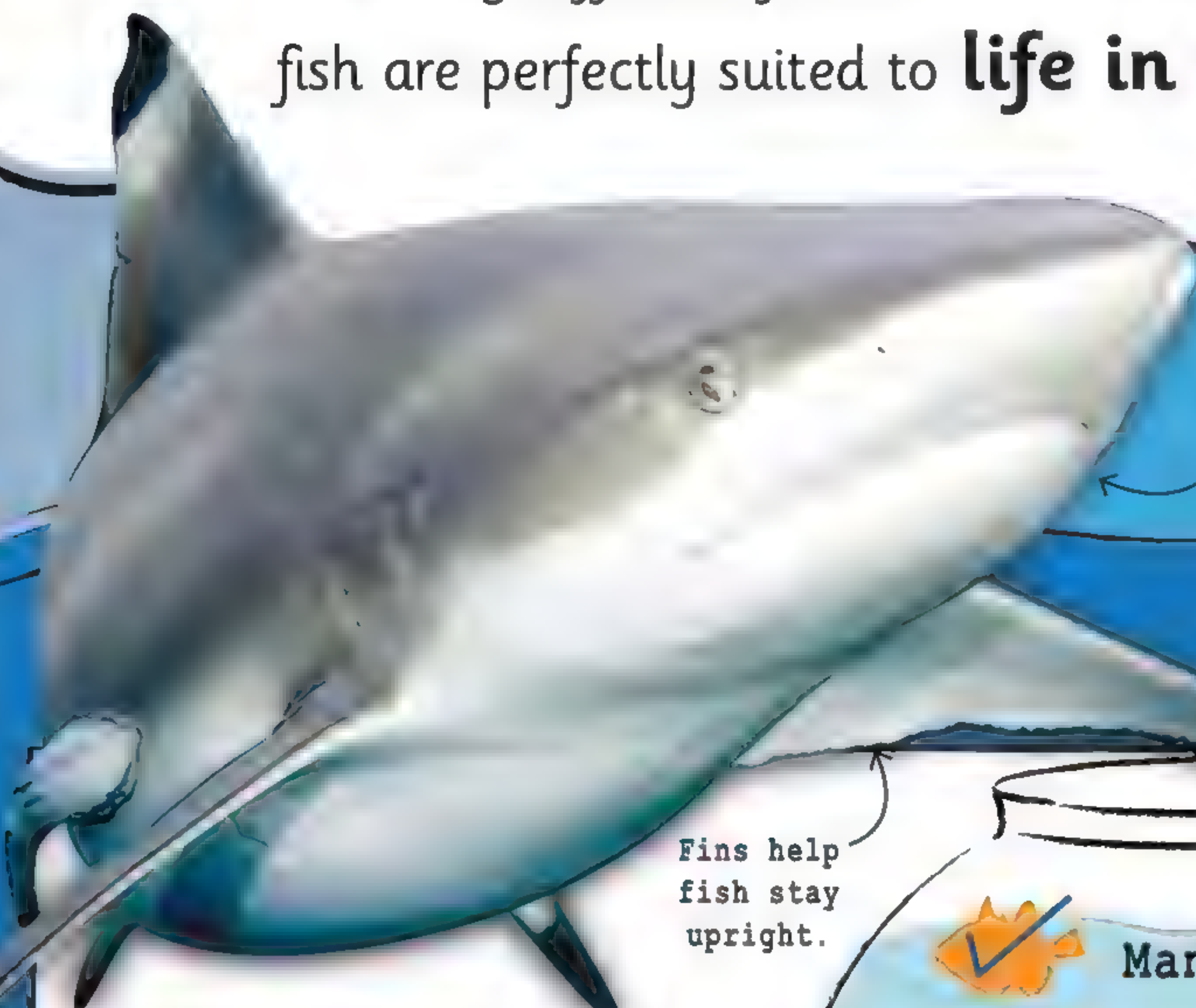
Tiger and cub

Gorilla



# Fabulous fish

From giant sharks to tiny sea horses, fish can look very different from one another. But all fish are perfectly suited to **life in water**.



Sharks are fish too!

Goldfish are popular pets, sharks are not!

Fins help fish stay upright.

## Fishy facts

Rather than breathing with lungs, fish breathe using their gills. And unlike mammals and birds, most fish are **cold-blooded**. This means they can't warm their own bodies.



Many have scales



Breathe with gills

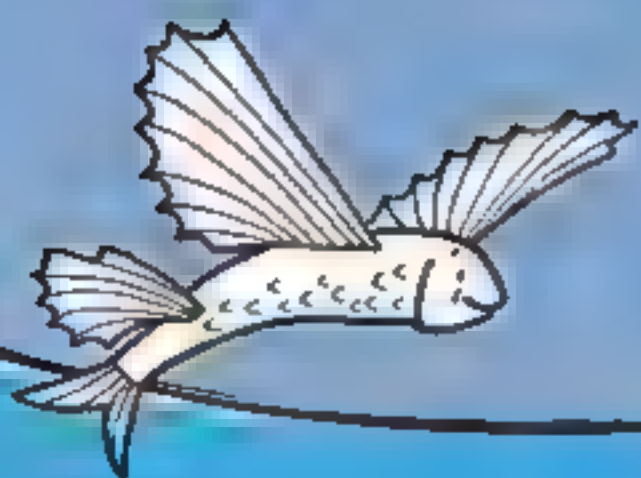


Cold-blooded



Have fins





Flying fish



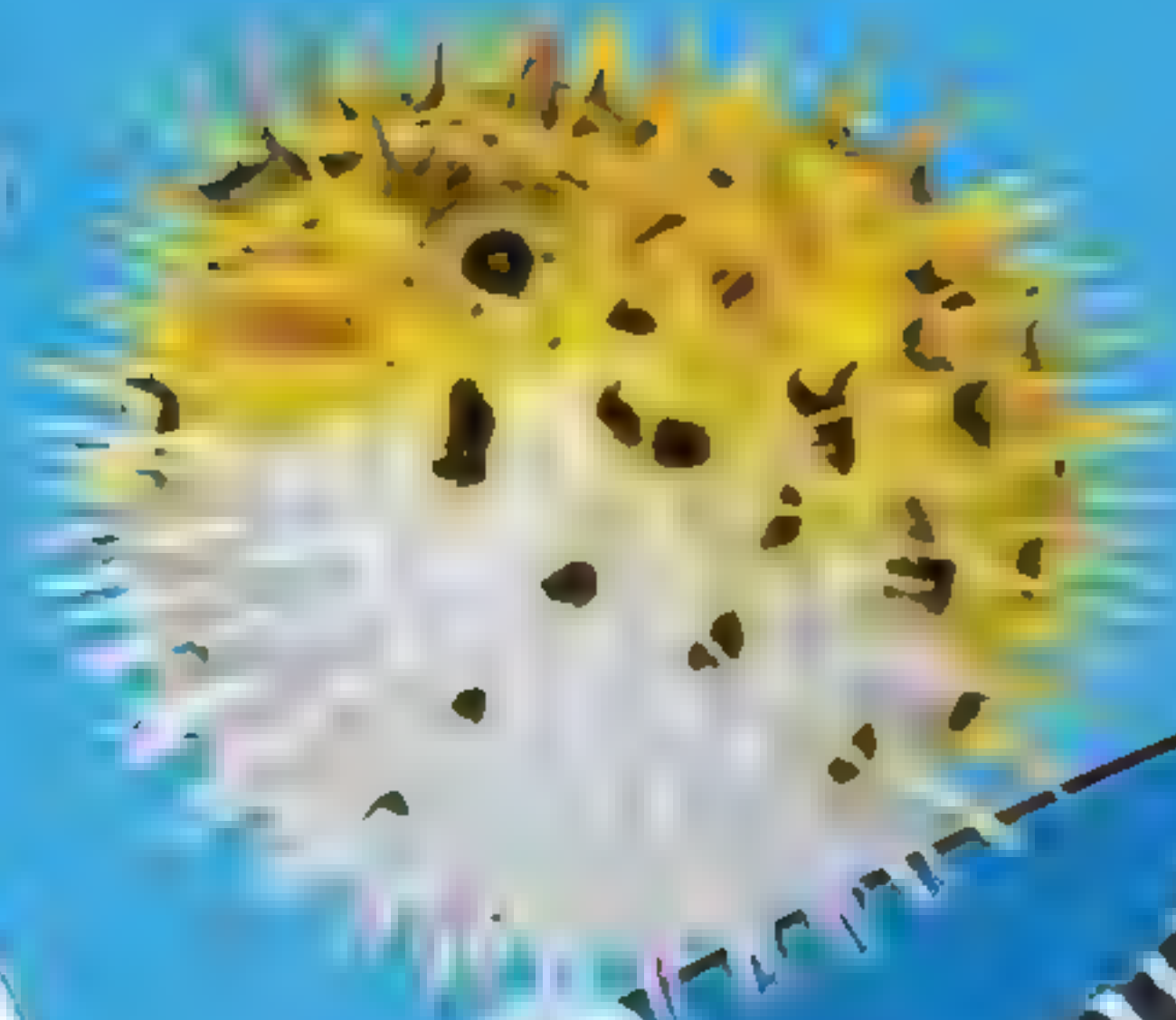
Stingray

Sharks and rays have soft bones.



Catfish

I swim by wiggling my tail fin from side to side.



Pufferfish



Moray eel



Tang

There are more than 30,000 different species of fish.



Sea horse

It's sea horse dads, not moms, that give birth to their babies.



Clownfish





Birds don't have teeth in their beaks.

# Beautiful birds

Look up! It's easy to spot a **bird**.  
Some may fly, some may talk, others may swim, others may squawk. Birds are the only animals with **feathers**.

Toucan

- ✓ Have feathers
- ✓ Lay eggs
- ✓ Have beaks
- ✓ Warm-blooded

**Fantastic feathers**  
No matter where a bird may live, its feathers keep it dry and warm. And without their feathers, birds wouldn't be able to fly!





Eagle

We are the smallest  
birds in the world.  
Our eggs are TINY.

Hummingbirds

Macaw

Pelican

Woodpecker

Ostrich  
and chick

I'm so big that I can't fly,  
but I'd rather run fast  
than be up in the sky.

Chicken

Try as they might, some birds,  
such as penguins and ostriches,  
**can't fly**. But ostriches can  
run very fast, and penguins  
are really good swimmers.

Ducks

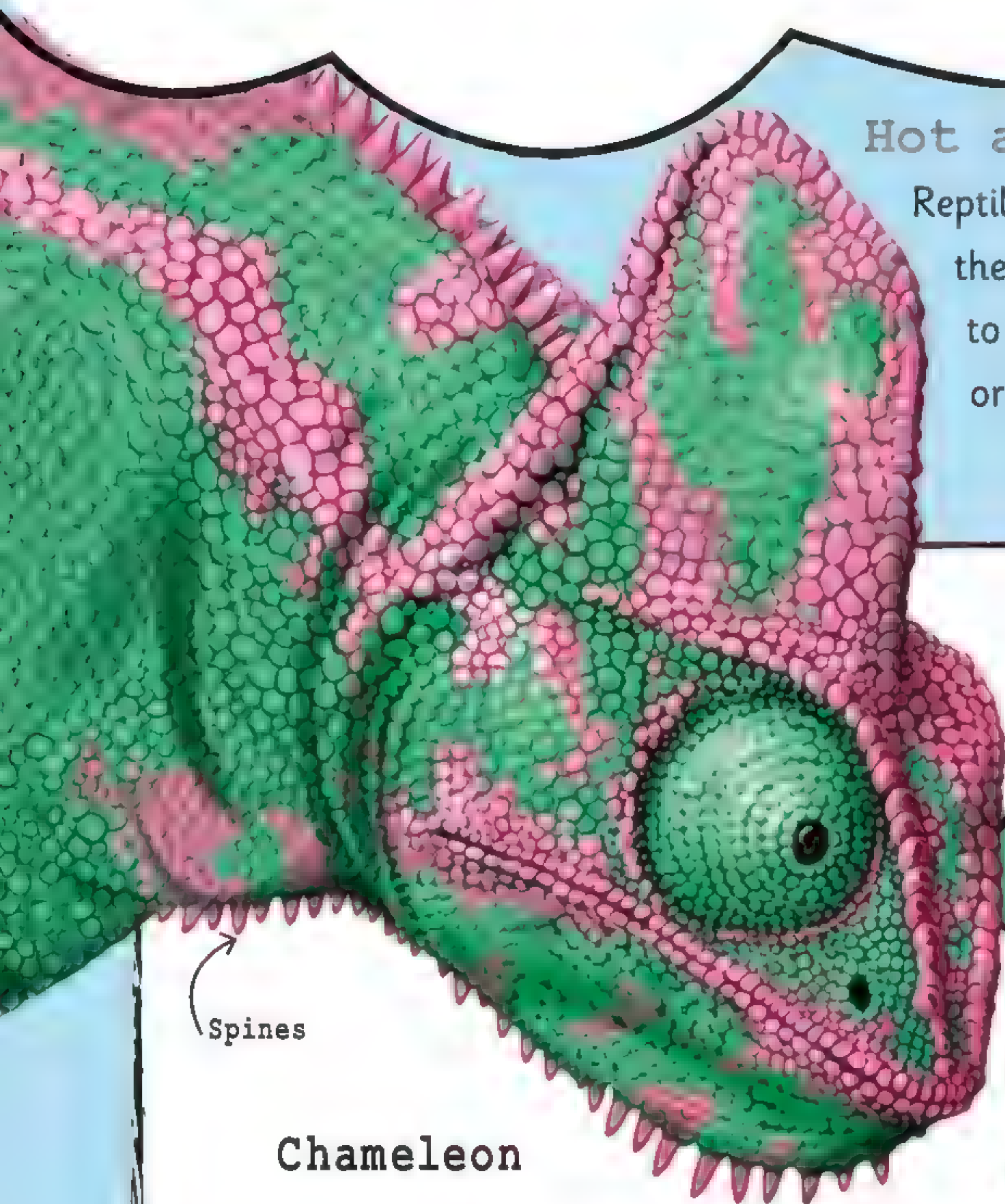


# Scaly reptiles

Whether they slither, scurry, snap, or hiss, all reptiles have scales. Like a suit of armor, scaly skin protects them from predators. It is also waterproof.

## Hot and cold

Reptiles are cold-blooded. This means their body doesn't naturally help to cool them when they are hot, or warm them when they are cold.



Spines

Chameleon

- ☒ Have scales
- ☒ Most lay eggs
- ☒ Cold-blooded





**Snake**

Snakes shed a layer of skin when it gets too tight. This is called molting.

Don't make me angry!  
If you do, I will open  
my frill and hiss to  
scare you away.

**Frilled  
lizard**



**Crocodile**



**Tuatara**



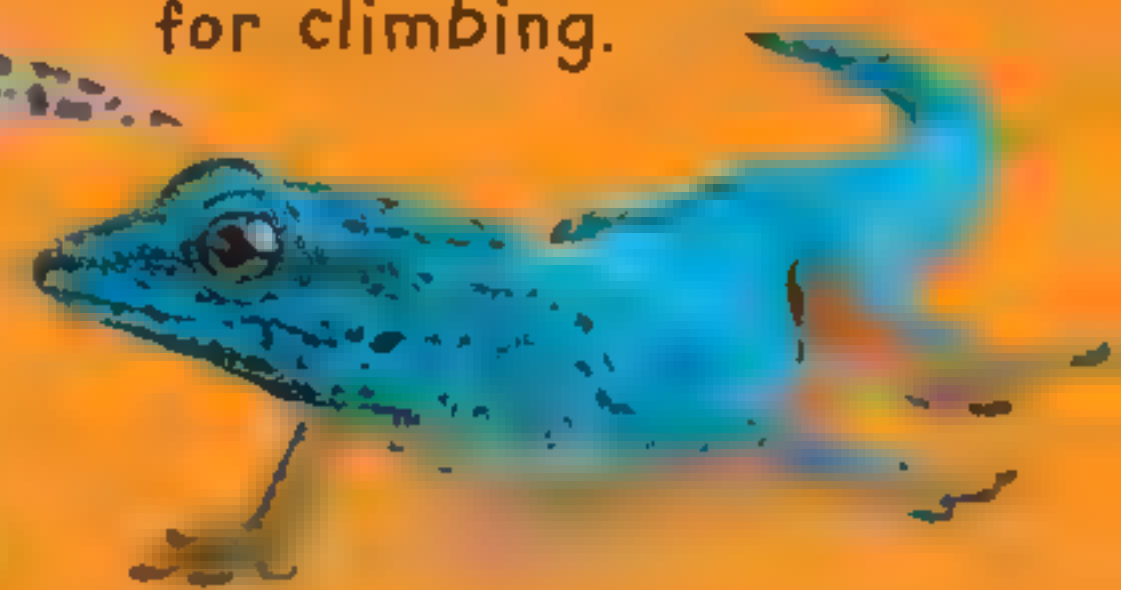
**Tortoise**

A group of  
tortoises is  
called a creep.

**Collared  
lizard**

I mostly eat insects, but if  
I'm very hungry, I might eat  
other small lizards!

Geckos have  
sticky feet  
for climbing.



**Geckos**





# Awesome amphibians

These animals have **super powers**.  
Well, not really, but they can live on both  
**land** and **water**. That's pretty super!

## Life cycles

Frogs, like most amphibians, are born from eggs. They slowly grow and change in the water until they are ready for life on land.







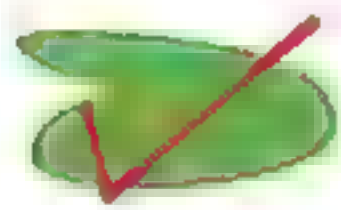
Poison  
dart  
frog

### Color caution

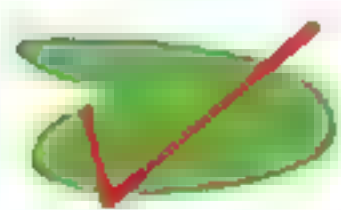
A lot of the brightest and most colorful frogs are **poisonous**. It's very clever—it's almost as if they're saying "**don't eat me!**"



Moist skin



Cold-blooded



No hair or fur



Can live on land  
or water

Teeny  
tiny frog!

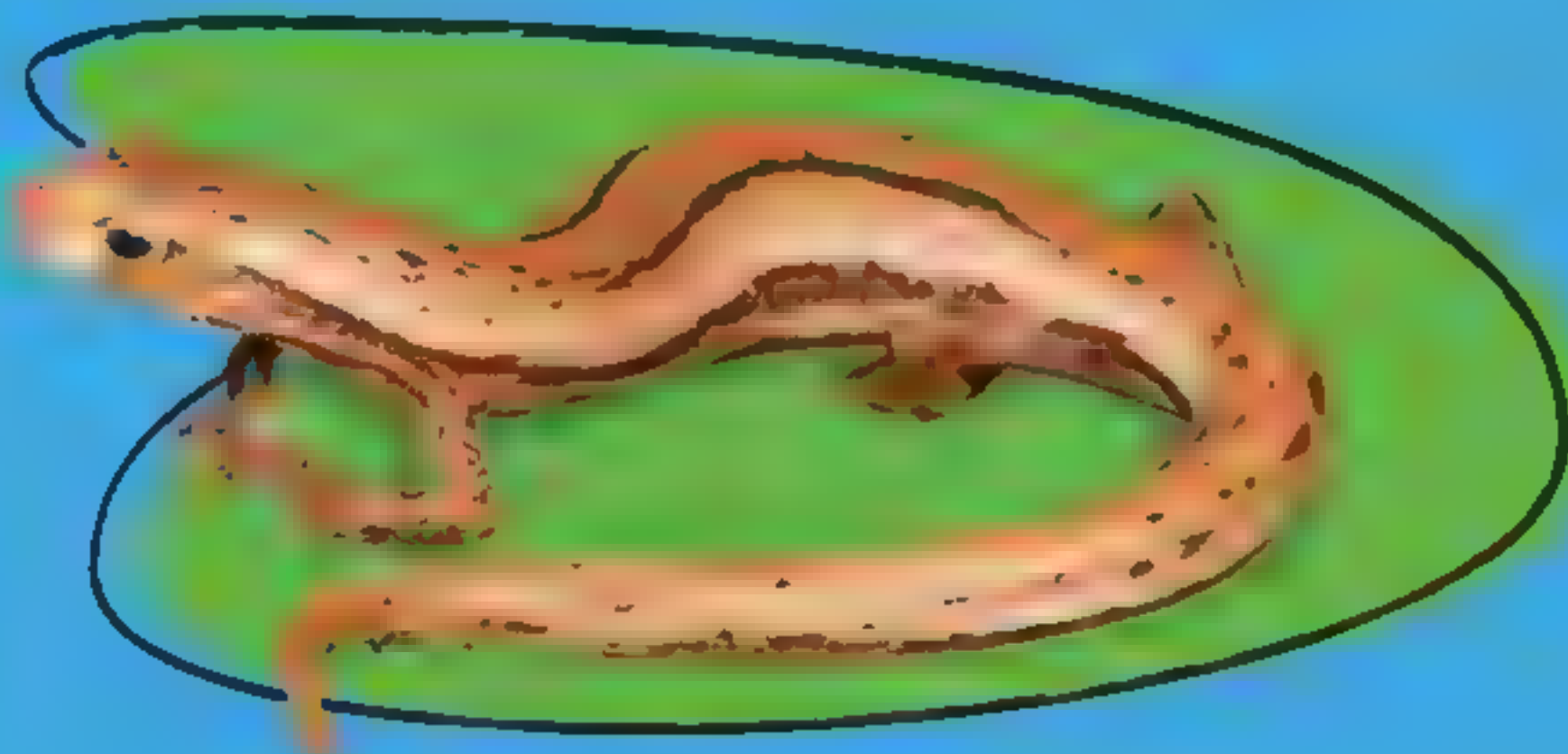


I'm a salamander  
My body and tail are very  
smooth and slimy.

Toad



Salamander



Axolotl

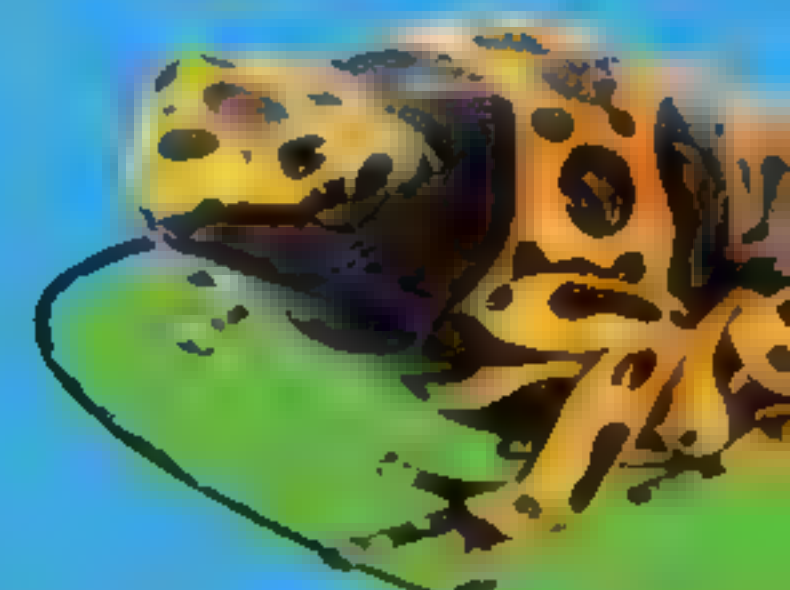


Say my name like  
"AXE-oh-LOT-el"

Caecilian



Frog





# Brilliant bugs

Think of a place. **Any** place in the world...

Bugs live there! There are lots of types of bug. Which ones do you know?

Munch!  
Munch!



Ladybug



Gold beetle

Green shield bug



Feelers



Wings

## Beautiful beetles

There are more types of beetle in the world than of any other animal. There are probably lots more to **discover**.



Three body sections



Many have wings



Six legs

= **Insect**

A beetle is an **insect**.





## Wicked webs

Most spiders spin **webs** to catch their food. Spiders usually eat insects such as flies, but very big spiders can catch birds.



**= Arachnid**

A spider is an **arachnid**.

✓ Eight legs

✓ Two body sections

✓ No wings

## Snail trail

Garden snails like to come out at night to nibble on plants. Wherever they go, they make a carpet of **slime** to move along smoothly. How slick!



✓ One body section

✓ One long foot

✓ No legs

**= Gastropod**

A snail is a **gastropod**.





# Caterpillar to butterfly

What's that? Caterpillars turn into beautiful **butterflies**? How does that happen?

**2**

A **caterpillar** hatches from an egg.

**1**

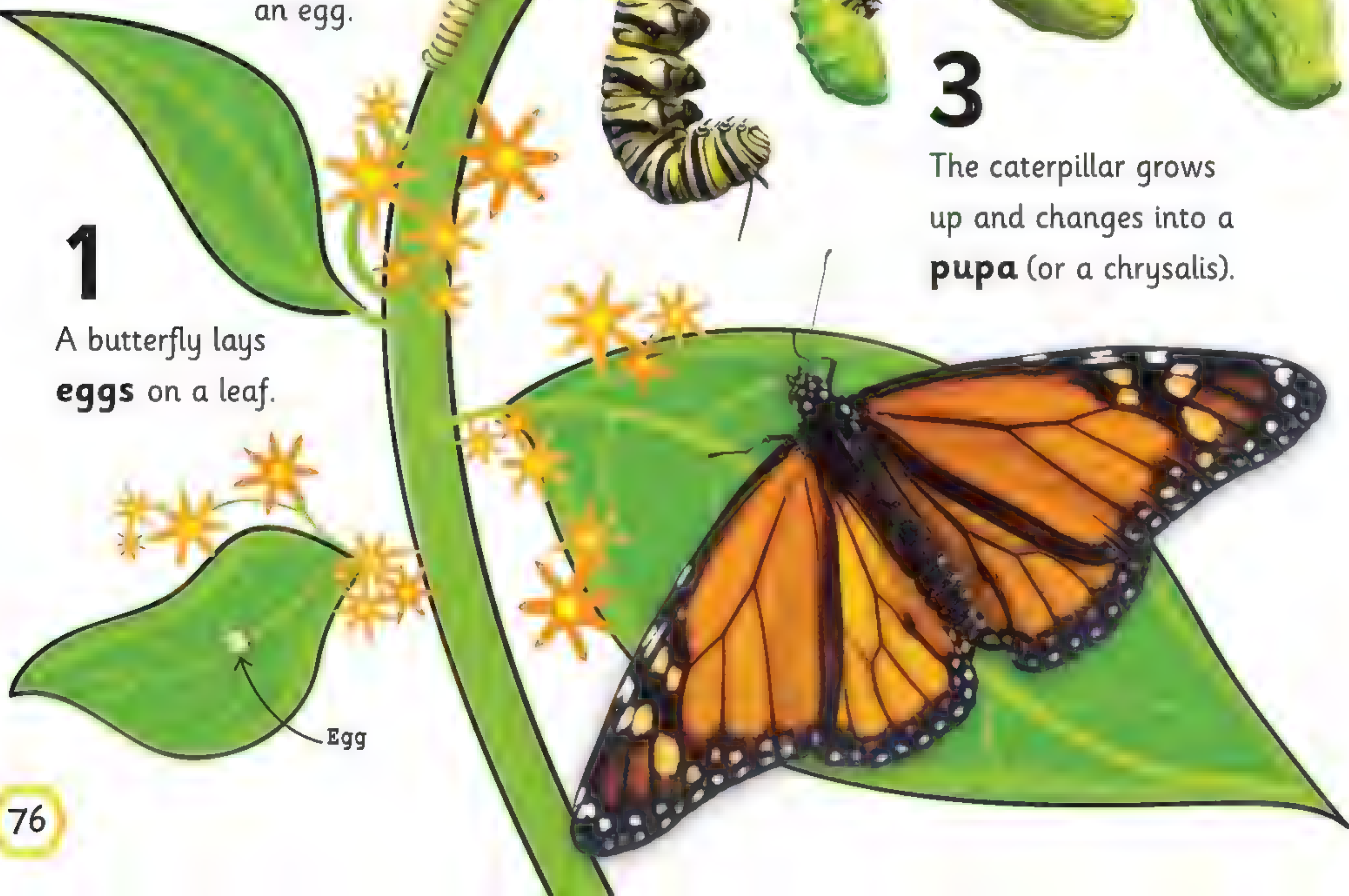
A butterfly lays **eggs** on a leaf.

Egg

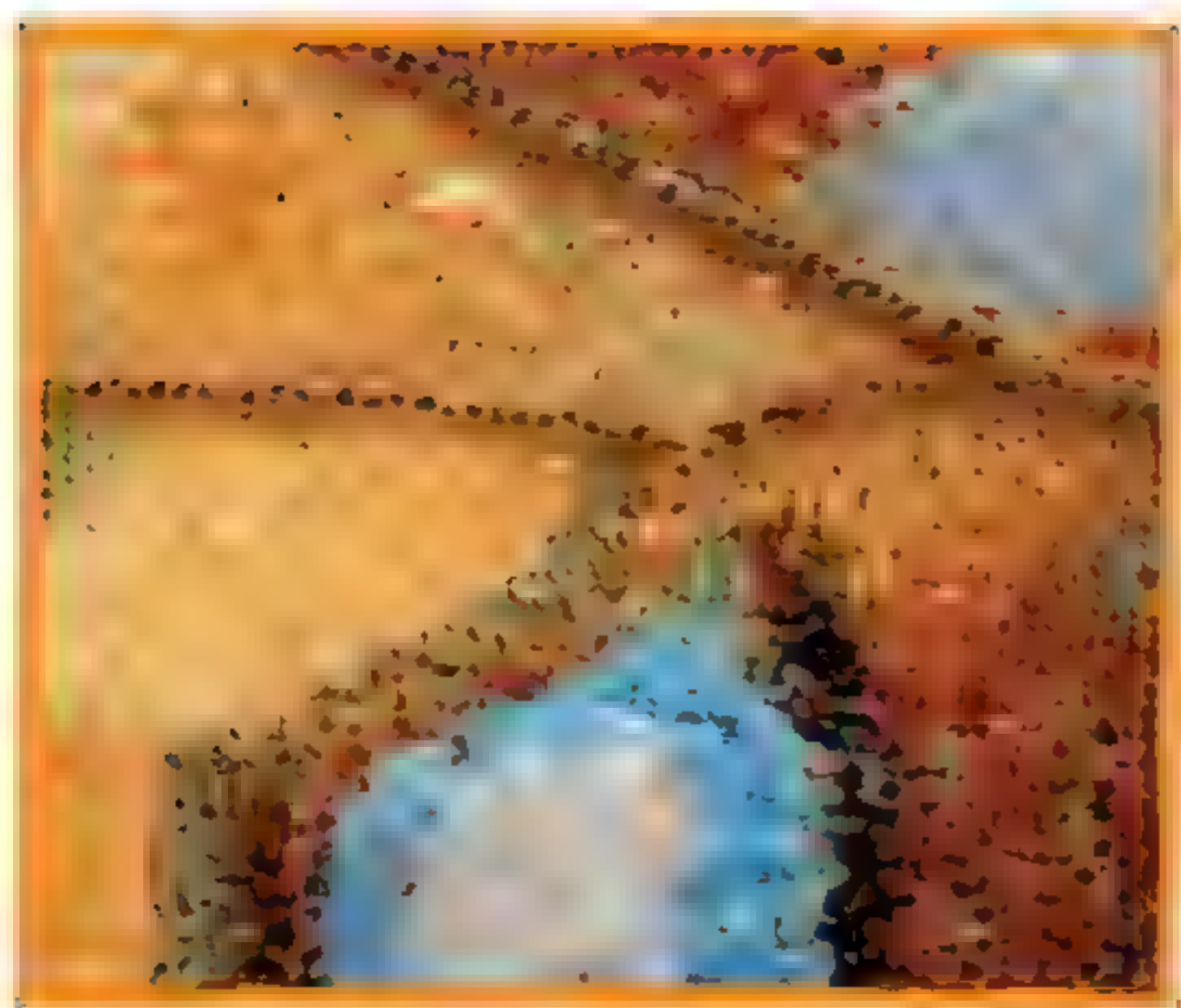
**3**

The caterpillar grows up and changes into a **pupa** (or a chrysalis).

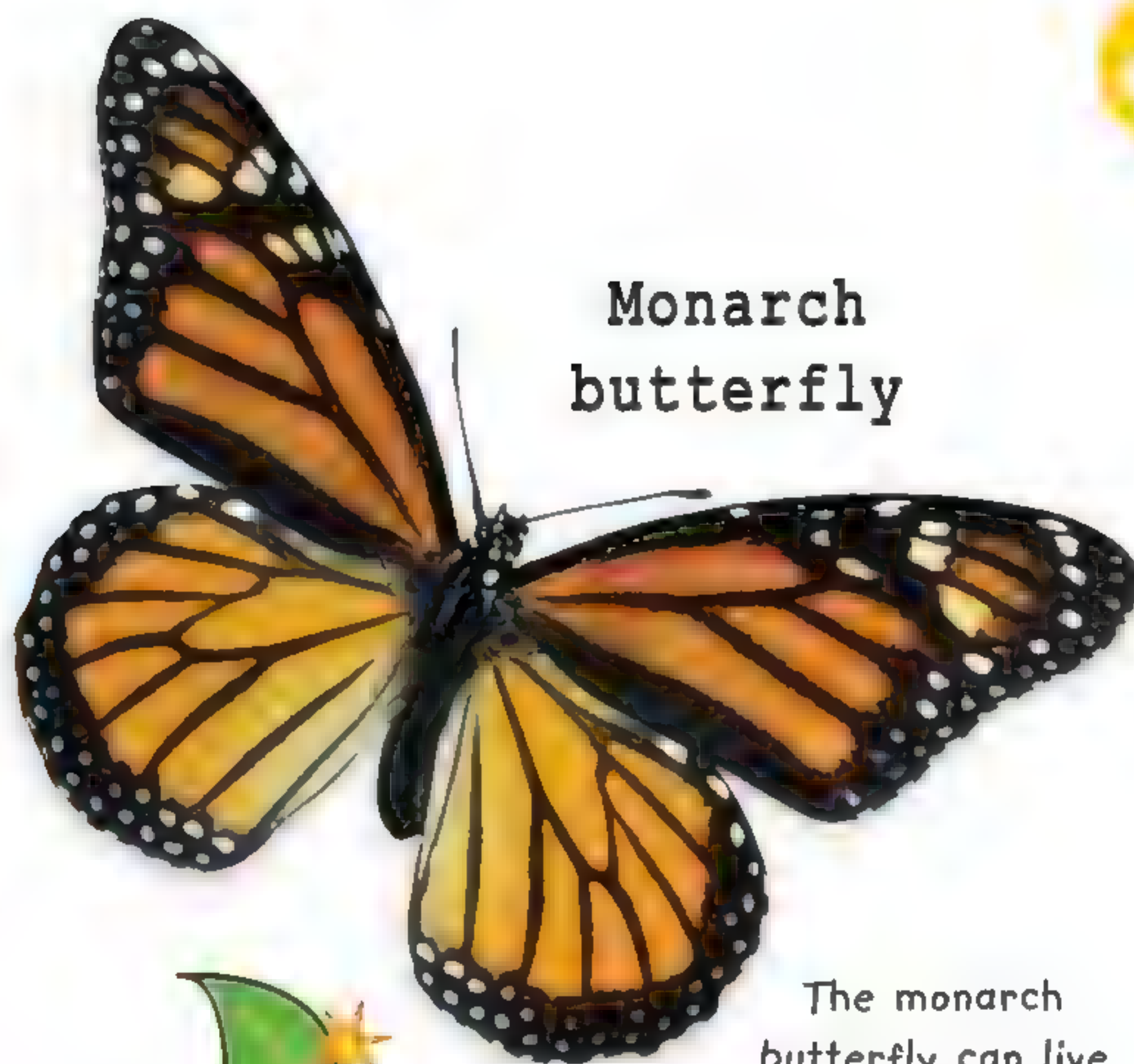
Pupa







The layers of a butterfly's wings are so thin you can actually **see through** them.



Monarch  
butterfly

The monarch butterfly can live up to nine months.



4

After a while the pupa opens and out comes a **butterfly**!

Empty  
pupa case

**Stretching out**  
Butterfly **wings** are folded and wrinkly at first, but they soon **stretch out** so the butterfly can fly away.





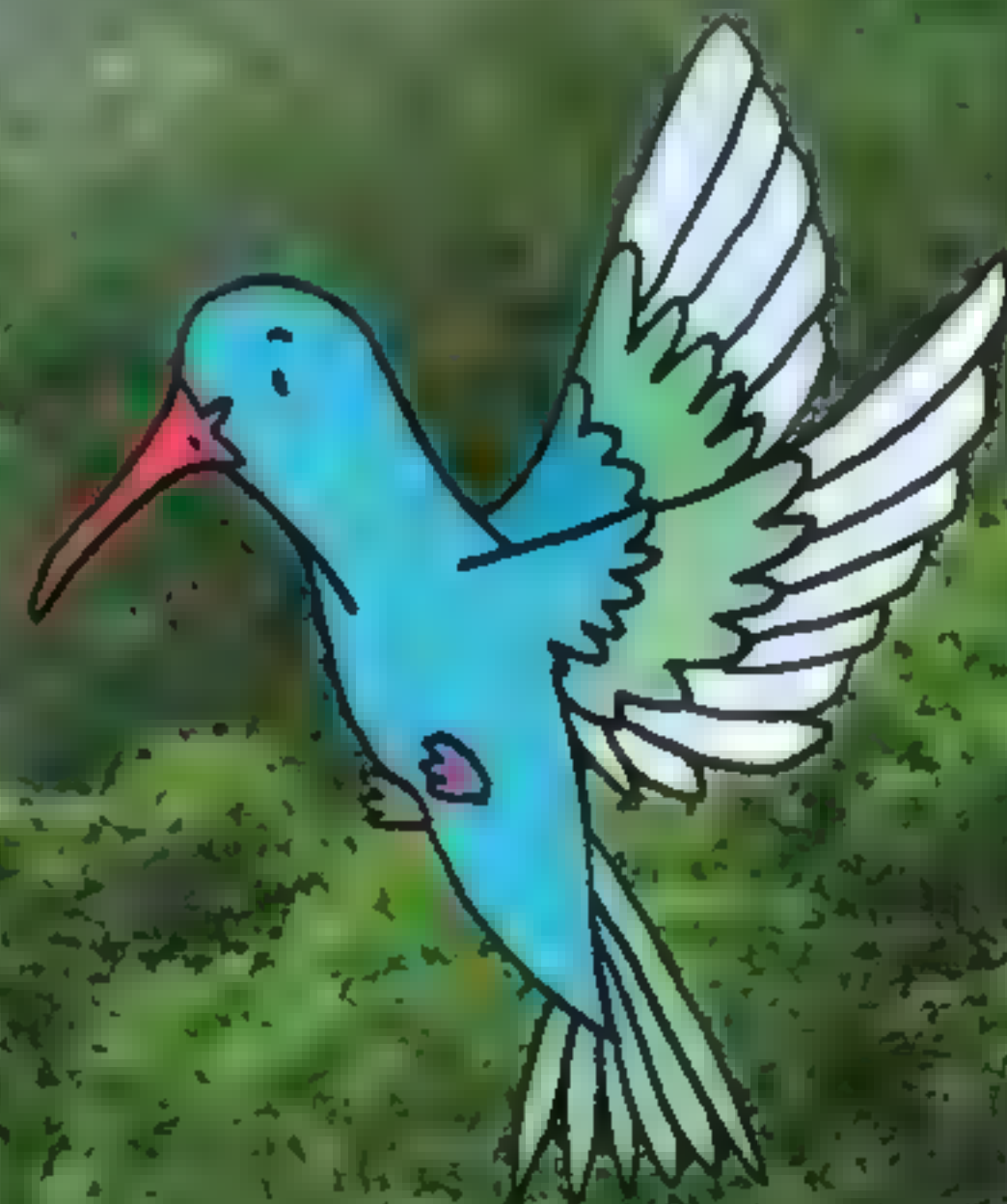
# Animal habitats

Every animal has a special place that they call **home**. In the animal world we call these places habitats.

## Forests

More than **half** of the world's animal and plant species live in rain forests!

It's important to look after our habitats.



I love living in the forest!  
I'm a great climber, and  
I use my tail to balance.



## Oceans and seas

Salty oceans and seas are brimming with fish, mammals, and bugs.



Not that many animals can live in a desert because there isn't much **water** to drink.



## Rivers and lakes

Lakes and rivers have **fresh water**, which means it isn't salty.



## Grasslands

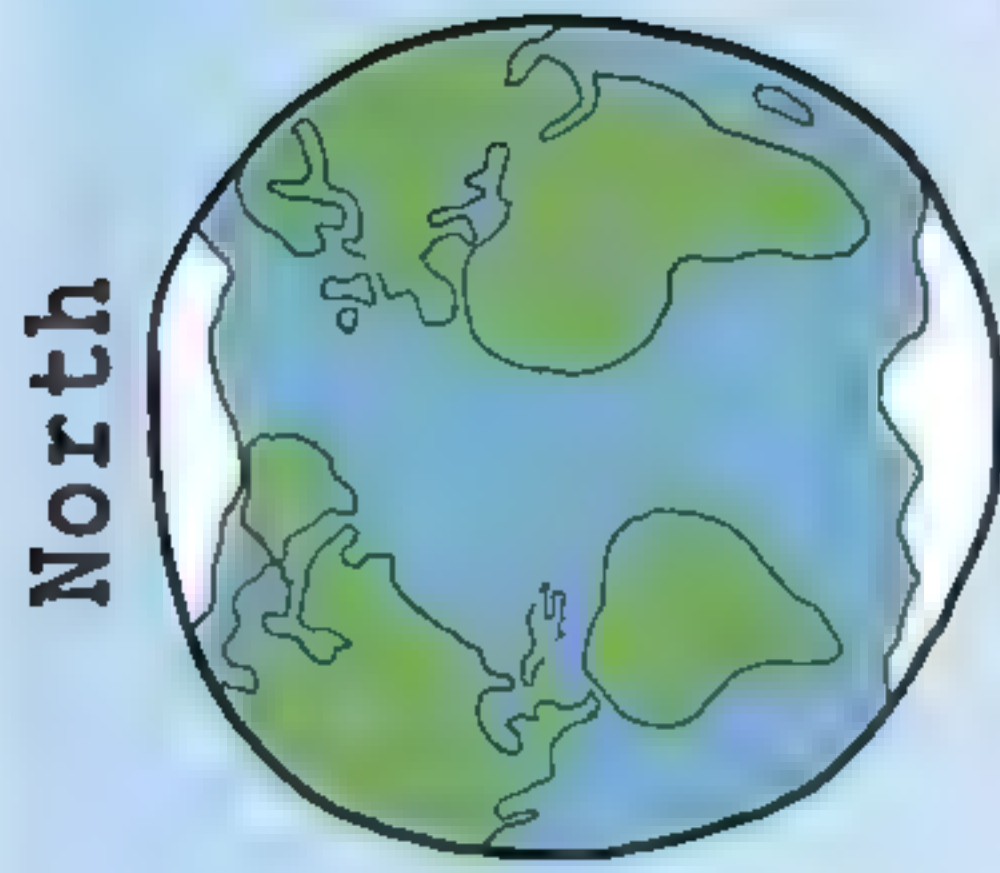
Food can be hard to find in grasslands, especially during the **dry season**.





# Pole to pole

It's very cold near the **North** and **South Pole**.  
But that doesn't stop animals from living there!



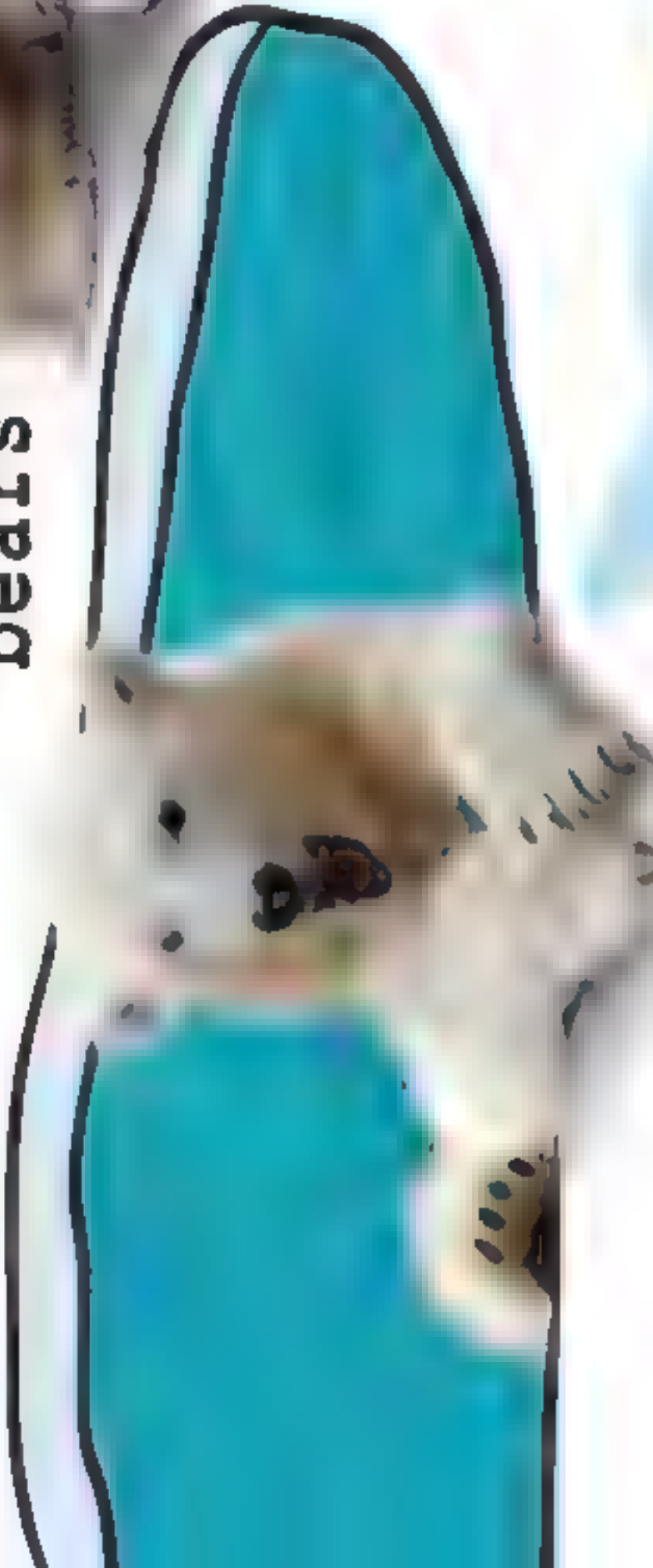
North

South

Seals



Polar bears



A polar bear's fur helps it blend in with the snow.

Underneath my fur, my skin is black!



These Arctic animals see almost **no daylight** in winter and almost **no darkness** during summer.

Snowy owl



Reindeer



Walrus

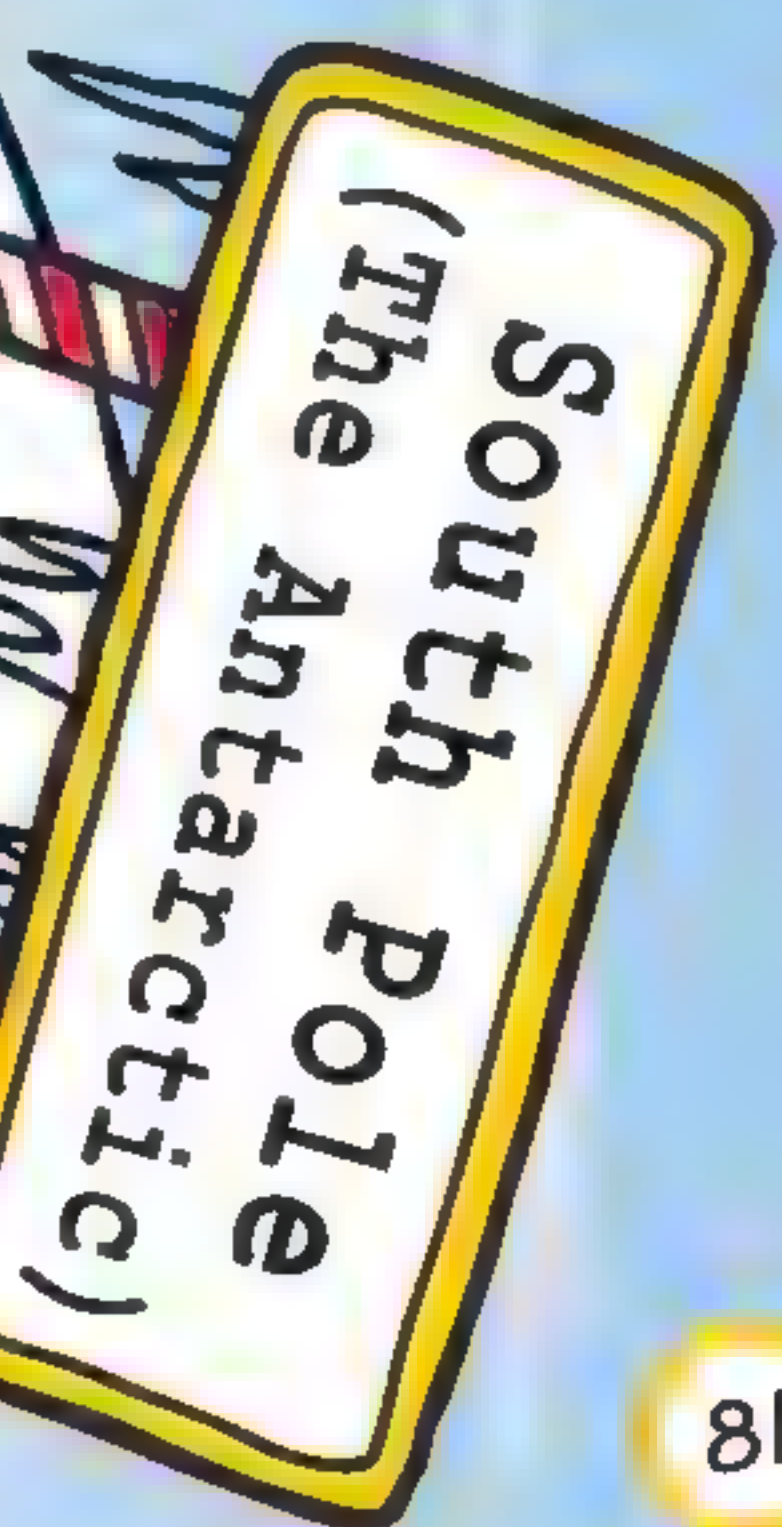


North Pole  
(The Arctic)



# Penguin Domination

There aren't very many types of animal in Antarctica, but millions of penguins love it!



I fly between both poles!

Arctic tern

Emperor penguins



King penguins balance their egg on their feet to keep it warm.

King penguins



I'm one of the smallest types of penguin.

Adelie penguin

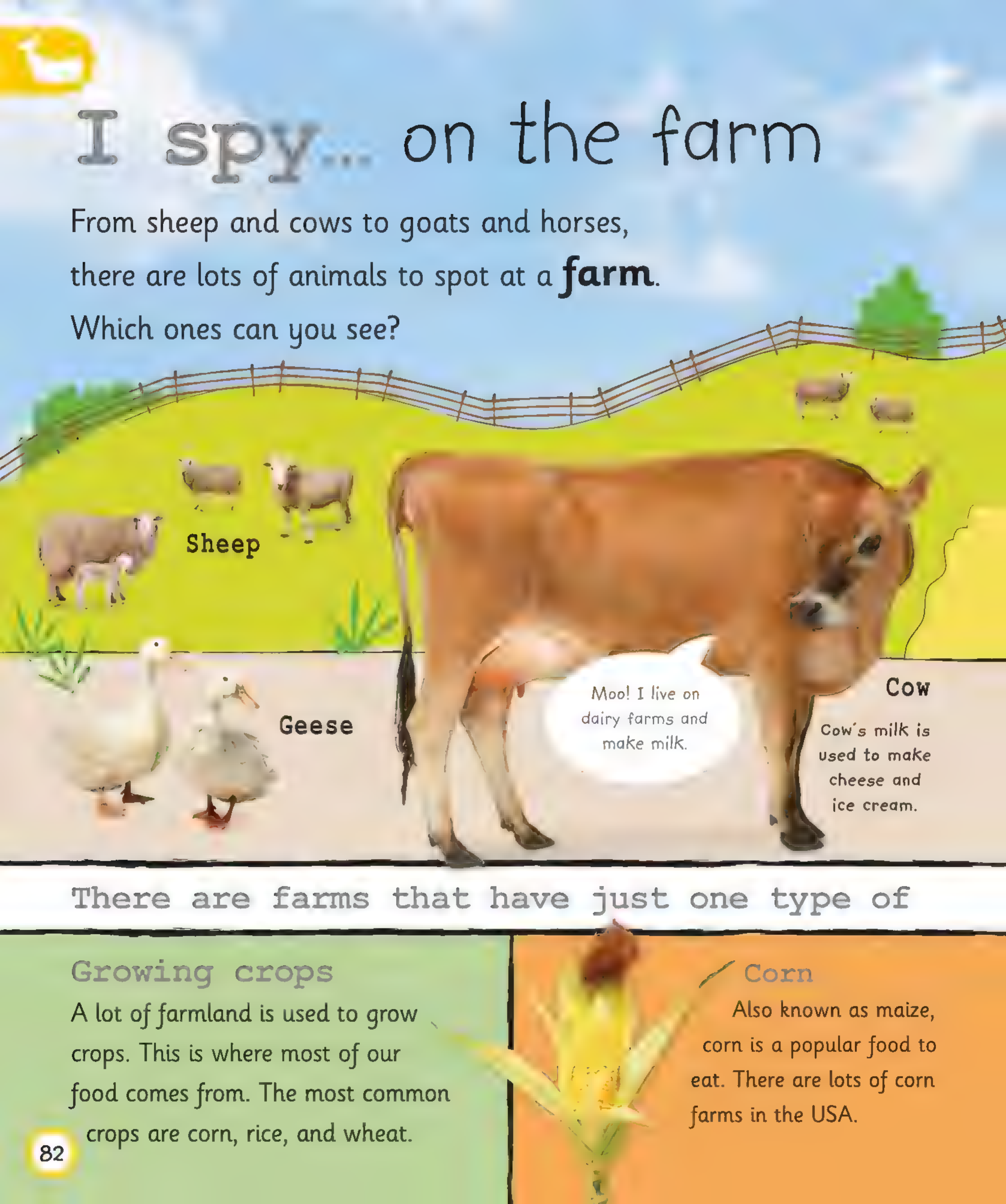


Fur seal



My favorite food is yummy fish.





# I spy... on the farm

From sheep and cows to goats and horses,  
there are lots of animals to spot at a **farm**.

Which ones can you see?

Sheep

Geese

Moo! I live on  
dairy farms and  
make milk.

Cow

Cow's milk is  
used to make  
cheese and  
ice cream.

There are farms that have just one type of

## Growing crops

A lot of farmland is used to grow  
crops. This is where most of our  
food comes from. The most common  
crops are corn, rice, and wheat.

## Corn

Also known as maize,  
corn is a popular food to  
eat. There are lots of corn  
farms in the USA.

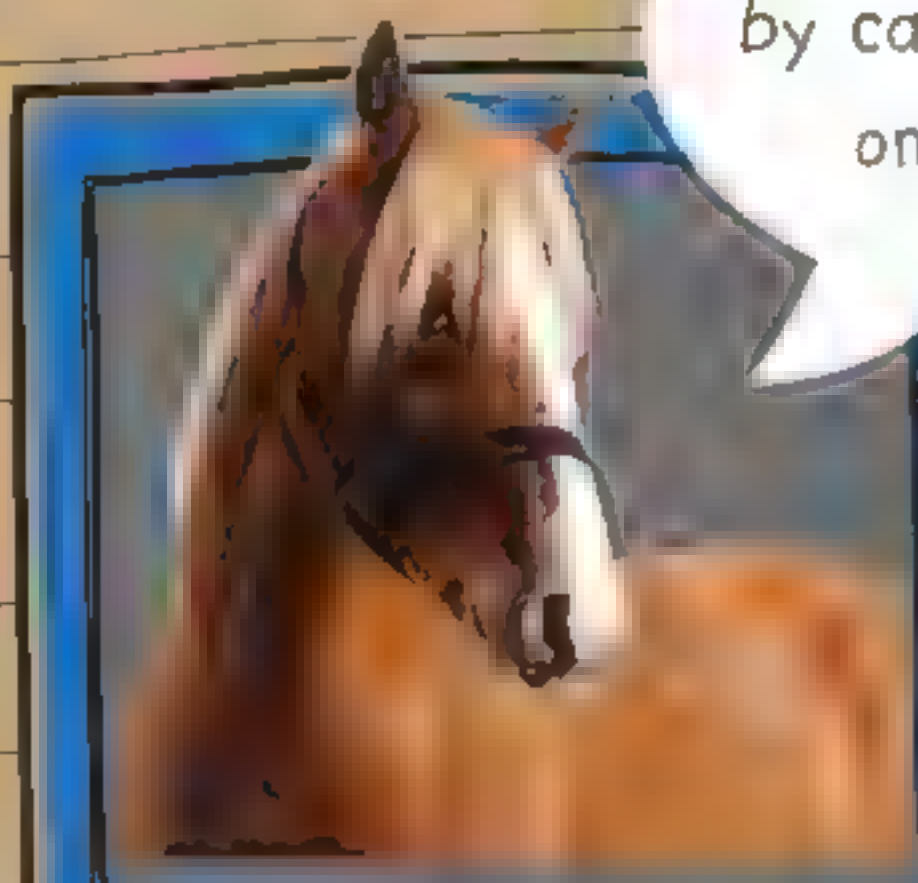




A rooster sings  
"cock-a-doodle-do!"



## Chickens



I help out  
by carrying people  
on my back.

Horse



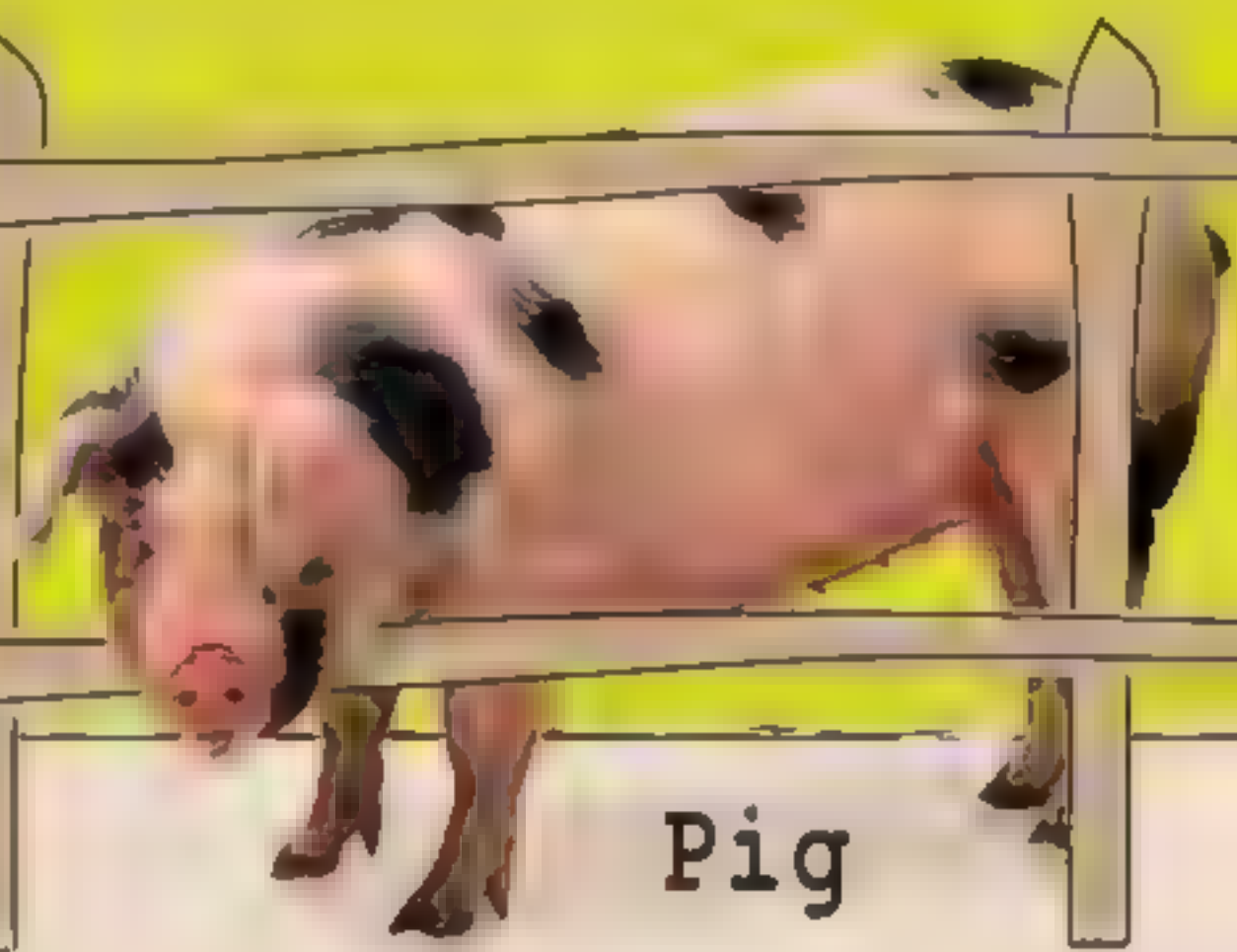
Turkey



Goat

## Farm tasks

Farms help us get the things we need, such as eggs for our breakfast and wool for our clothes.



Pig

Pigs love to roll in mud, but not because they're dirty—the mud stops them from getting sunburned!

animal, such as salmon or even snails!

## Rice

Delicious rice needs lots of water to grow. In parts of Asia, people eat rice almost every day.



## Wheat

Wheat is used to make lots of foods, including bread, pasta, and cakes!





# I spy... in the mountains

We're a long way up! Are we being  
watched? Do you know these  
mountain animals?

Mountain  
lion



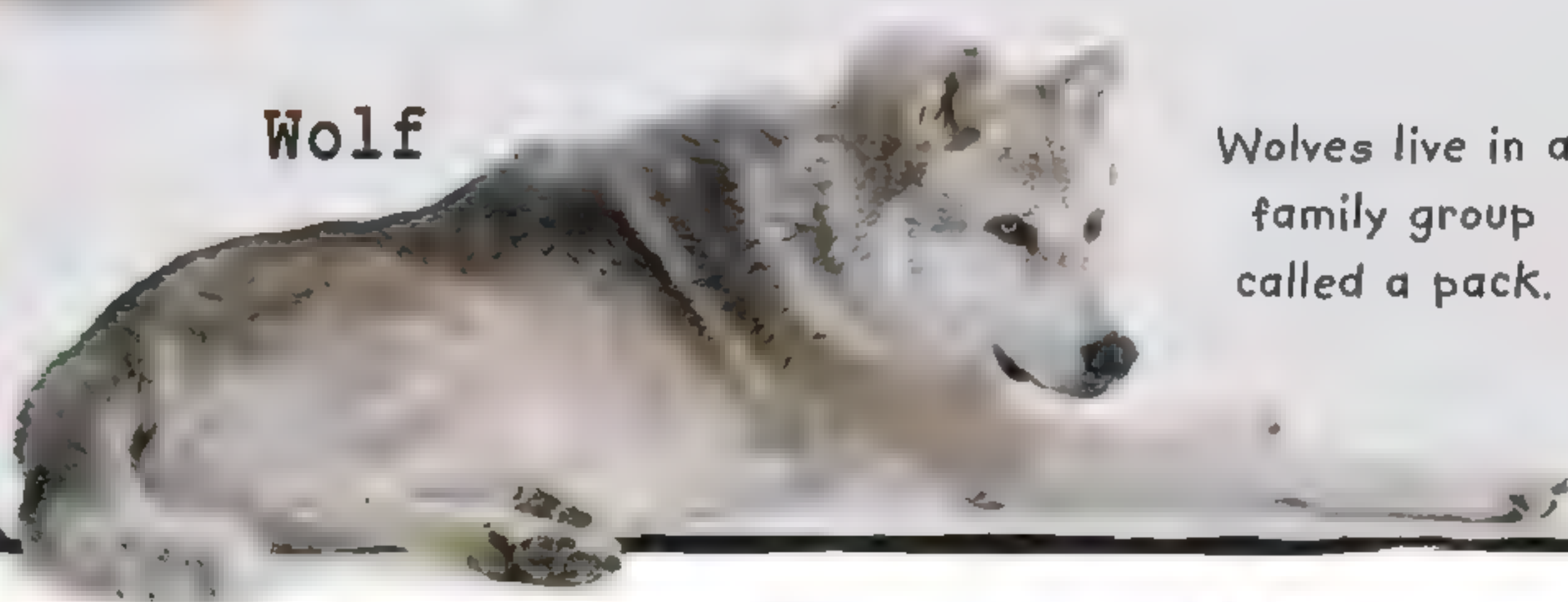
Mountain lions are  
also called cougars.

Eagle

Eagles soar high  
above the peaks.



Wolf



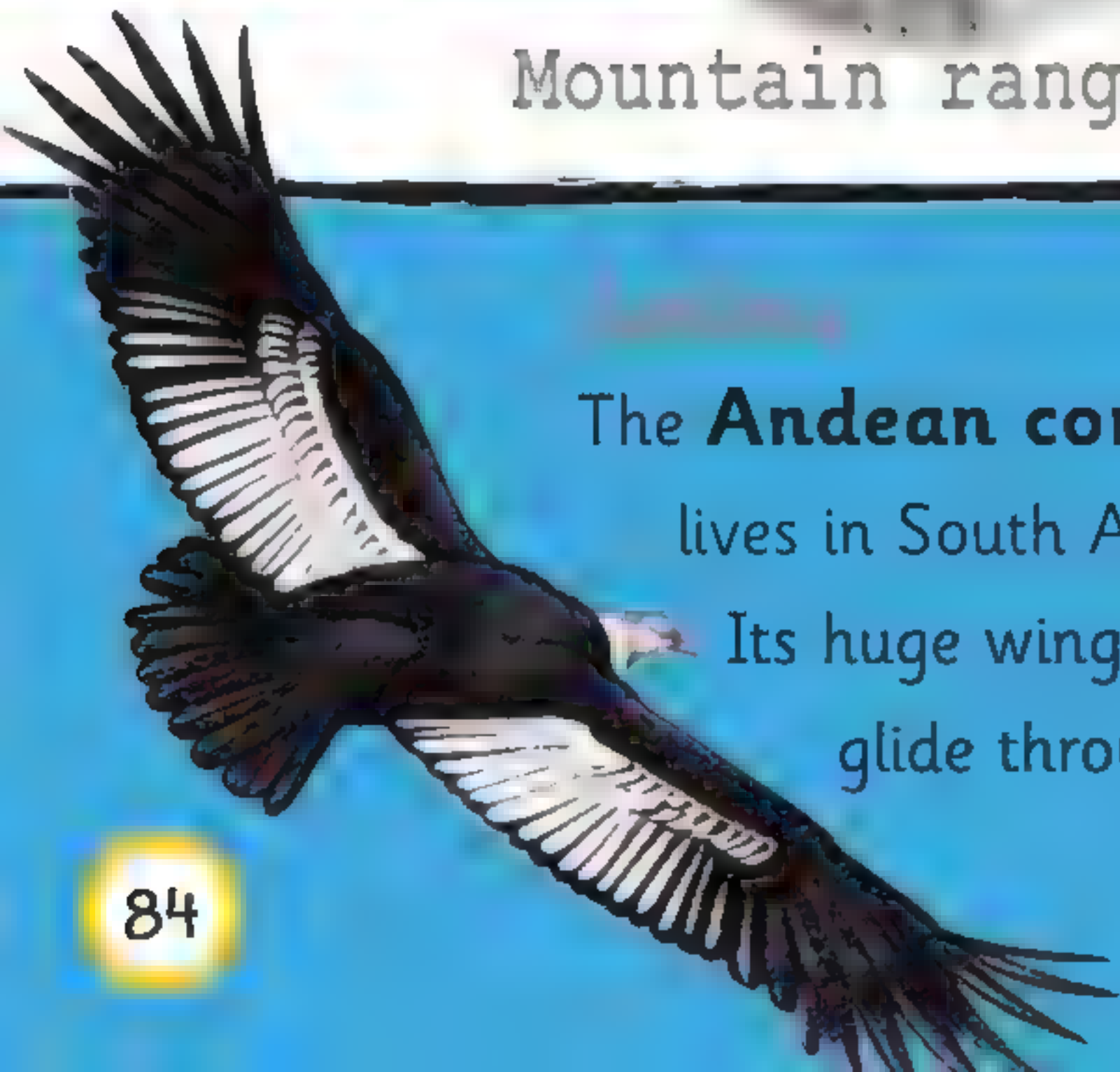
Wolves live in a  
family group  
called a pack.

Mountain ranges across the world all have their own

The **Andean condor**

lives in South America.

Its huge wings help it  
glide through the air.



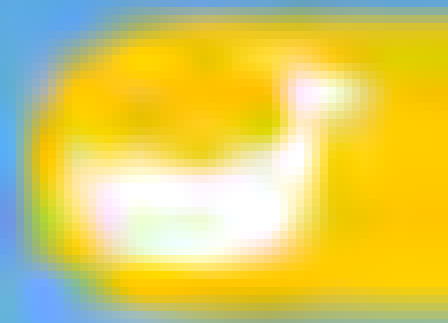
**Atlas Mountains**

The **Barbary macaque**

is a type of monkey from  
Africa. The leaders of each  
group are always female.





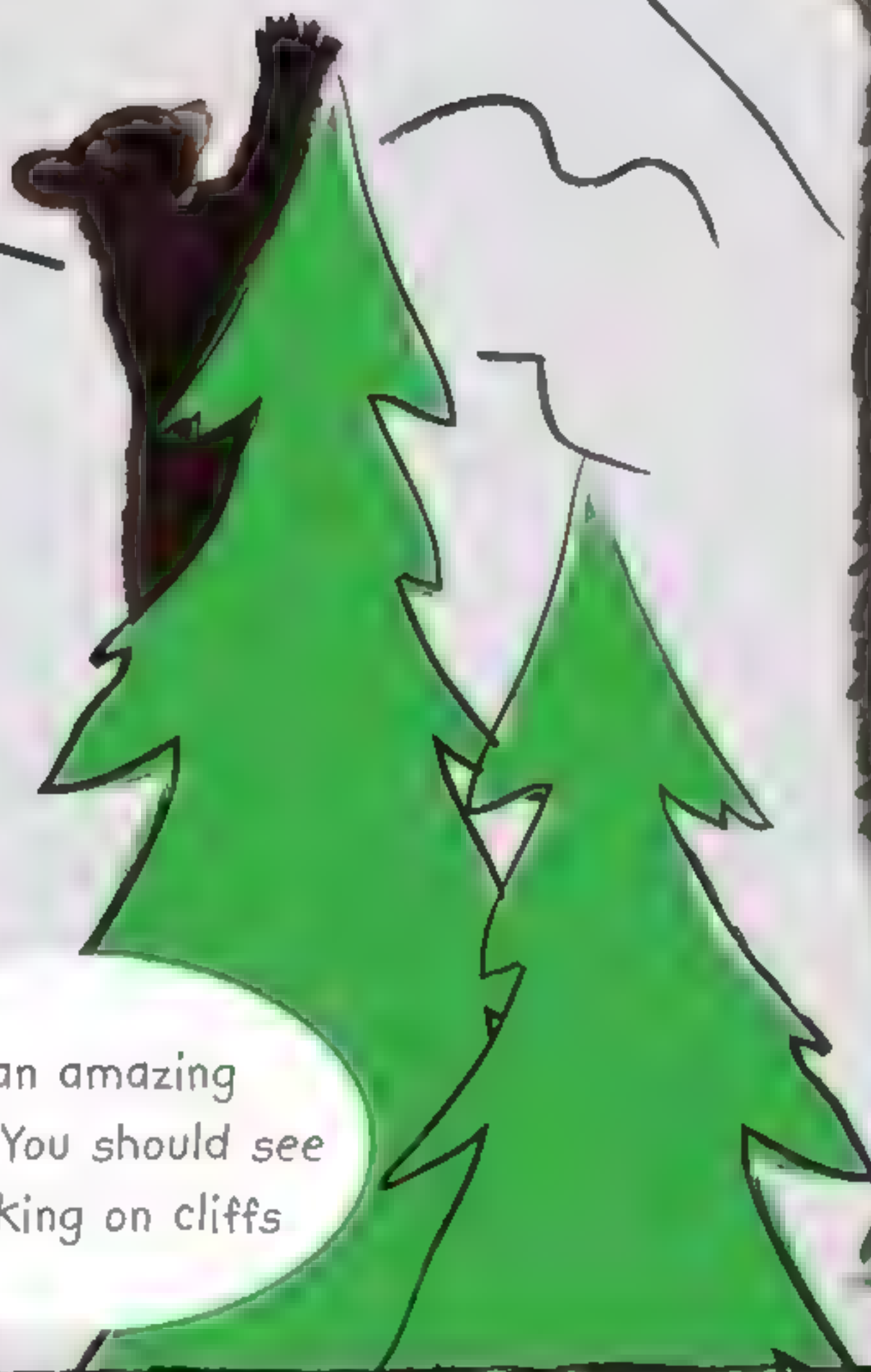


Coyotes love to  
howl at the Moon.



Coyote

Black bears  
are very good at  
climbing trees.



Black  
bear

Mountain  
goat



I'm an amazing  
climber. You should see  
me walking on cliffs

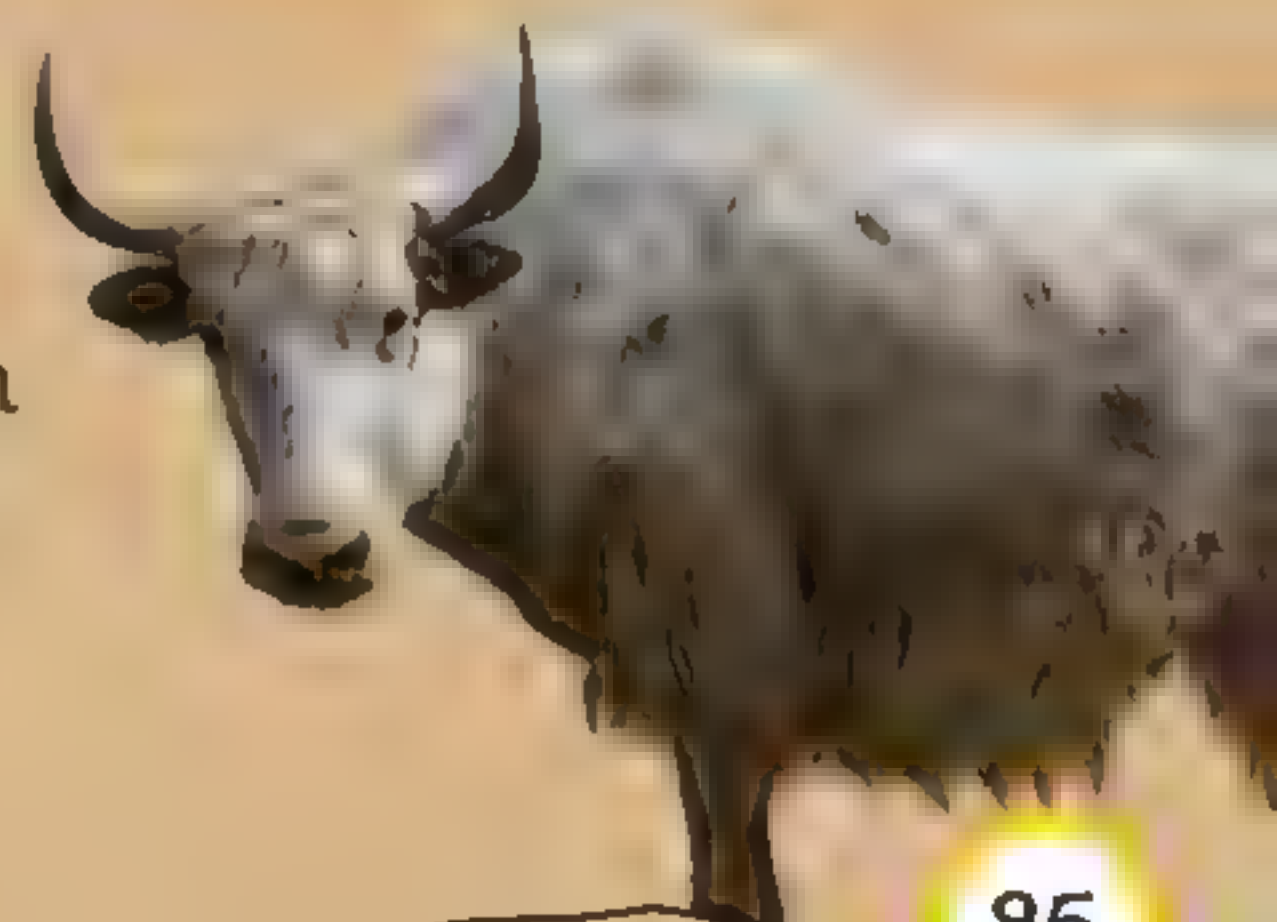


special animals. Here are some you may not know.

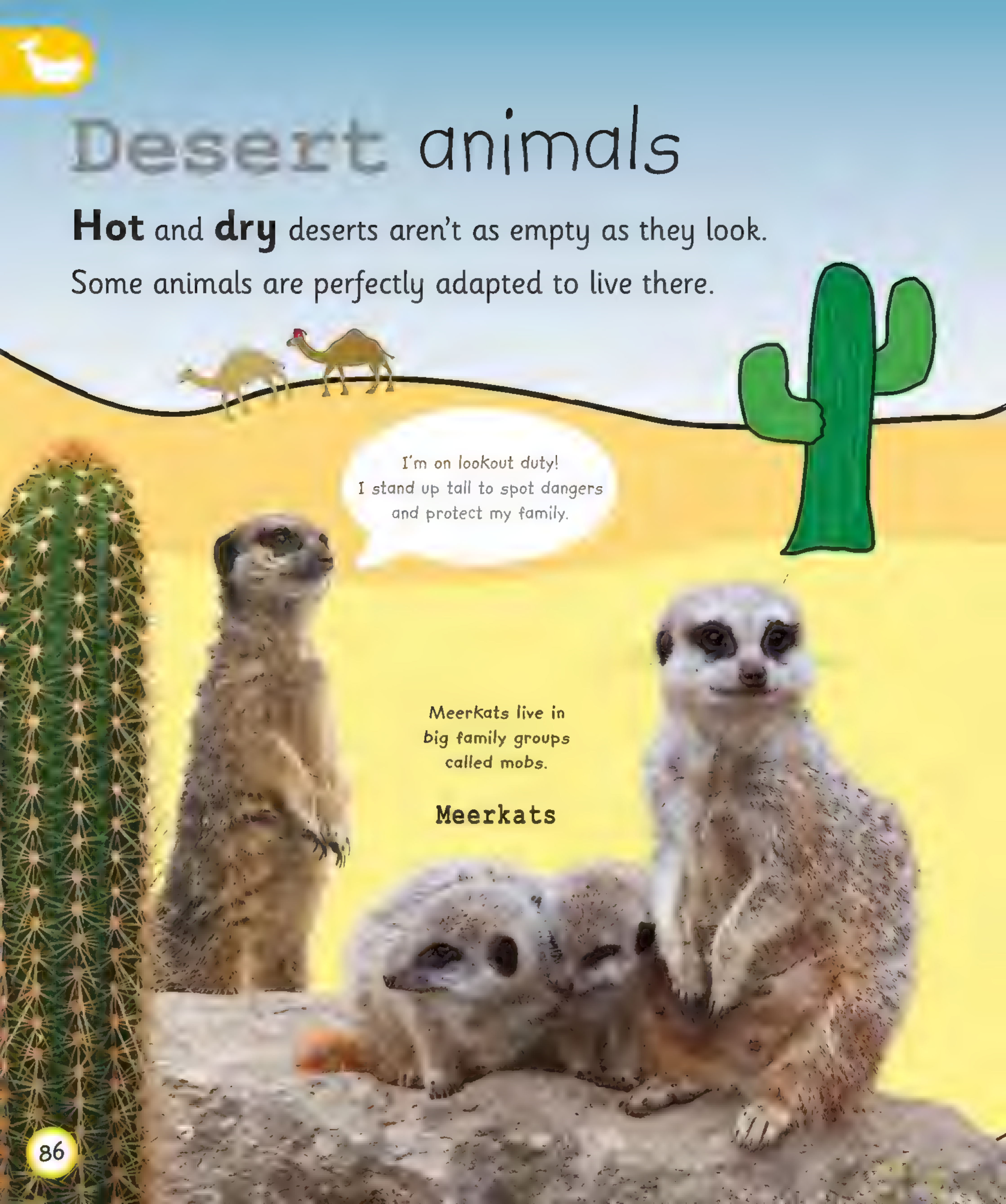


The **kea** of New Zealand  
is the world's only  
mountain parrot. It's so  
clever it can solve puzzles.

The **yak** is a type  
of cattle that lives in  
parts of Asia. It can  
live very high up.







# Desert animals

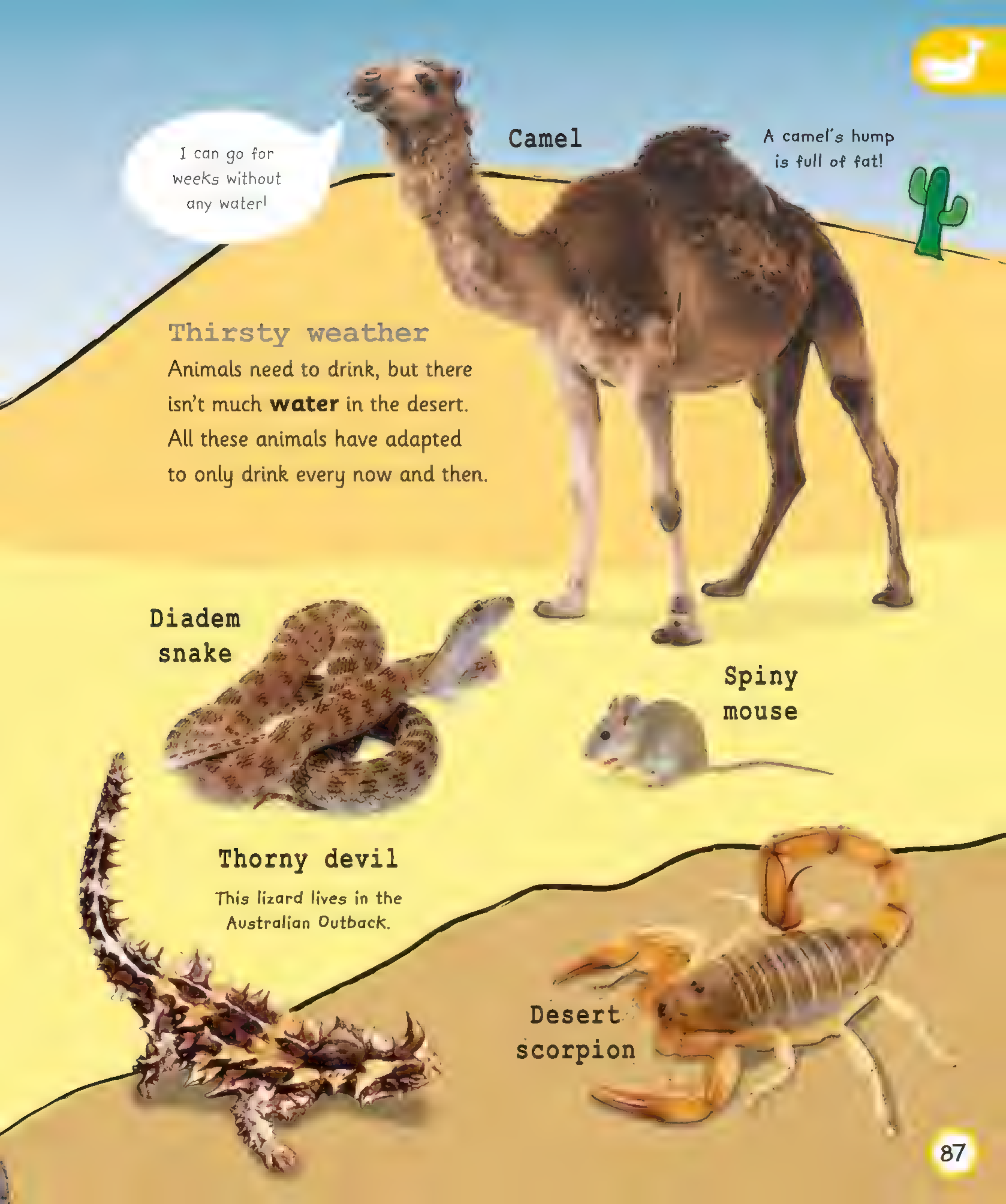
**Hot** and **dry** deserts aren't as empty as they look.  
Some animals are perfectly adapted to live there.

I'm on lookout duty!  
I stand up tall to spot dangers  
and protect my family.

Meerkats live in  
big family groups  
called mobs.

**Meerkats**

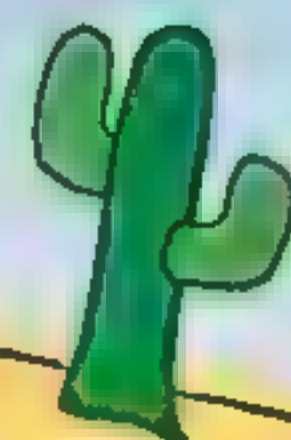




I can go for weeks without any water!

Camel

A camel's hump is full of fat!



## Thirsty weather

Animals need to drink, but there isn't much **water** in the desert. All these animals have adapted to only drink every now and then.

Diadem snake

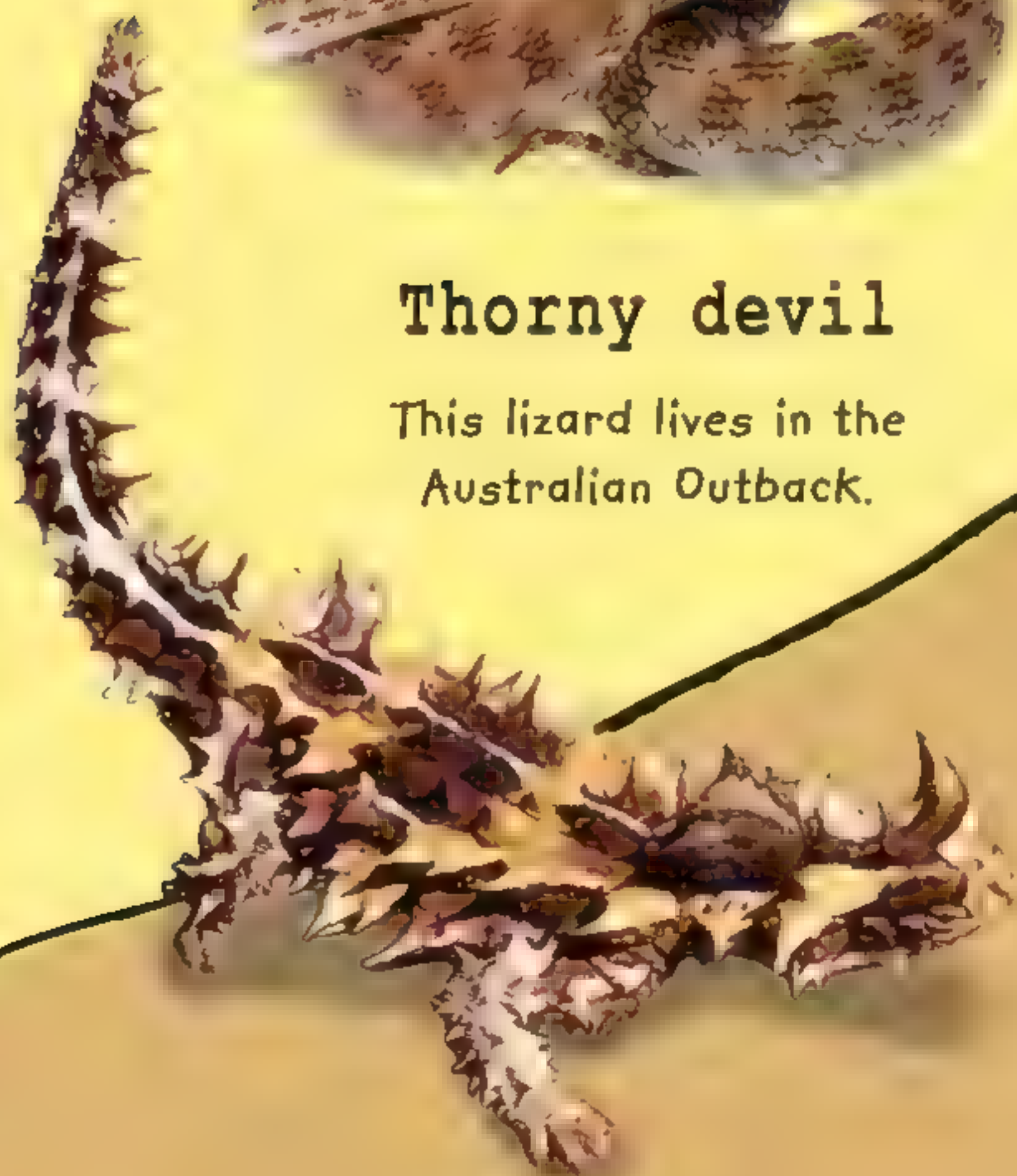


Spiny mouse



Thorny devil

This lizard lives in the Australian Outback.



Desert scorpion



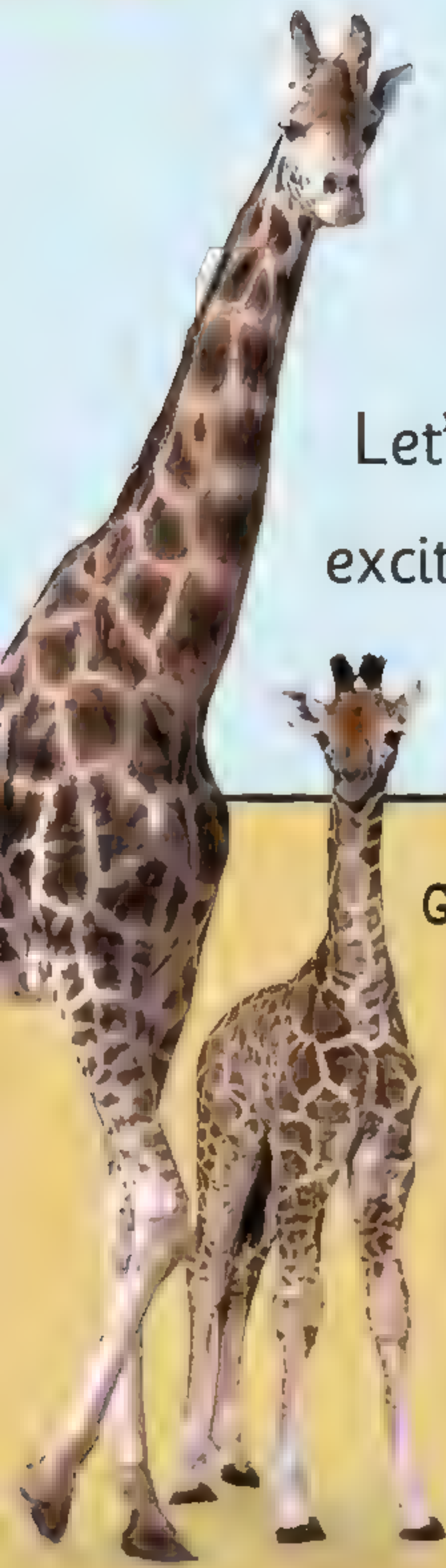




I spy...

# on the African plains

Let's go on a **SAFARI**! There are so many exciting animals to see on the African plains.



Giraffes

A giraffe's long neck helps it reach food in high places.



Gazelles



Zebras

There are grasslands across the world, but in Africa



These powerful big cats live in family groups called **prides**.



African buffalo

These thirsty beasts never stray too far away from a source of **water**.



Where's the water?

The African plains are wide, open grasslands. It's a hot and dry place, so animals gather around **watering holes** to drink.

I like to climb trees. Sometimes I bring my meals up here, too!

Leopard

Elephants

Hippopotamus

Elephants are the biggest land animals in the world.

this place is called the **SAVANNAH**.



Quick and agile, a leopard's coat helps it to **hide** in grass while it is hunting.

**White rhino**

Although this two-horned animal looks like a slow, **heavy giant**, it can actually run very **fast**.





# The very big blue whale

A giant of the sea, there's no creature anywhere that's the size of the big **blue whale**.

I'm big. **VERY** big!

A blue whale's heart  
is as big as a car.

Barnacle

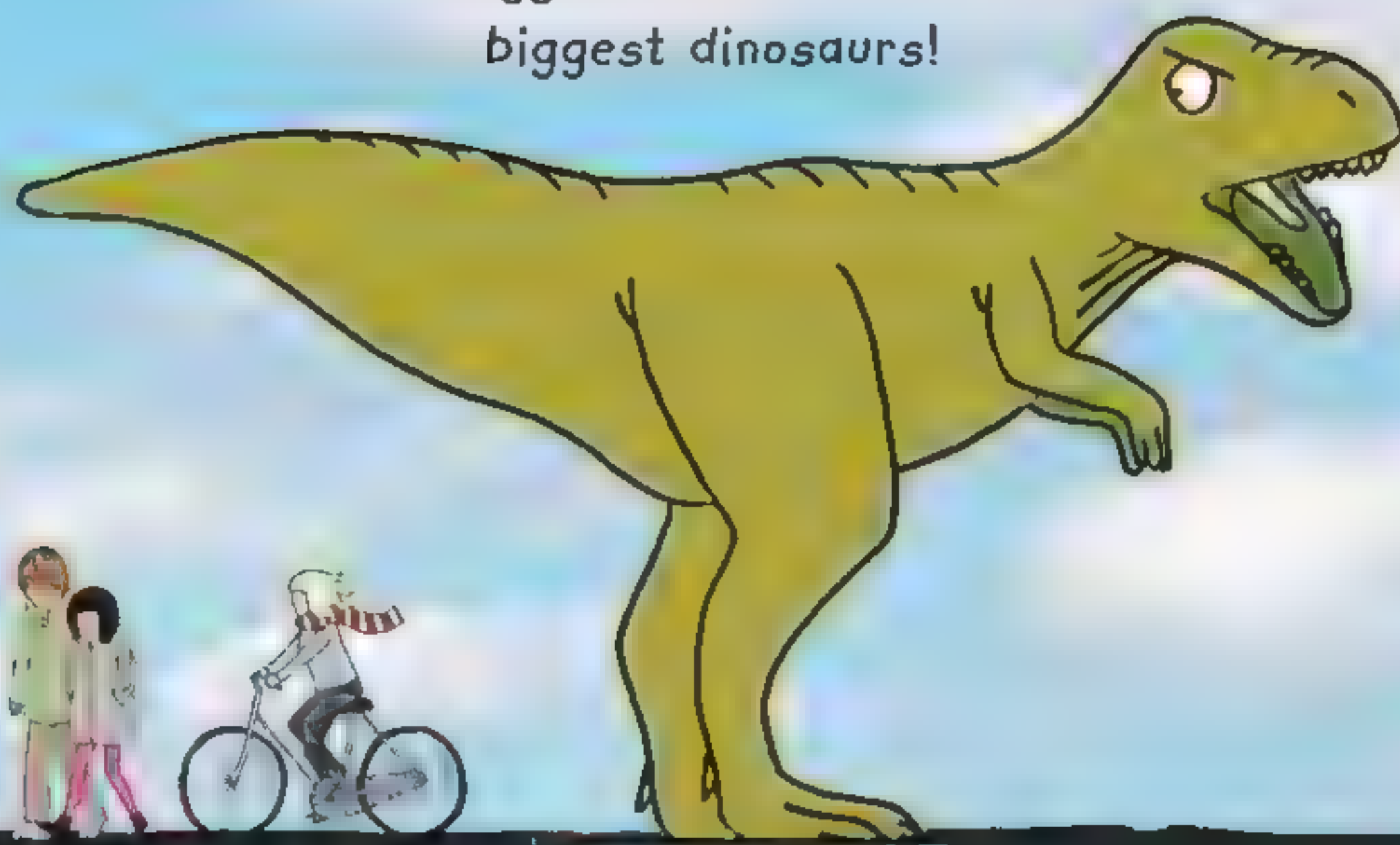
BUS



## Mighty mammal

Whales aren't fish (like sharks), so they have to come up to breathe air. They are **mammals**, like mice, but **SO MUCH** bigger!

Blue whales are bigger than even the biggest dinosaurs!



I'm a tiny barnacle and clinging is my thing, I eat the whale's leftovers and live like a king.

Enormous mouth

Blue whales are **LOUD!** Whales can make sounds as loud as an **AIRPLANE** taking off!

A blue whale's food is teeny tiny itsy bitsy **krill**. To fill up, the whale has to eat 40 million a day. That's **LOADS!**

Krill



# Super sharks

They may look all toothy and scary, but guess what—a lot of sharks are **harmless**.

What are sharks?

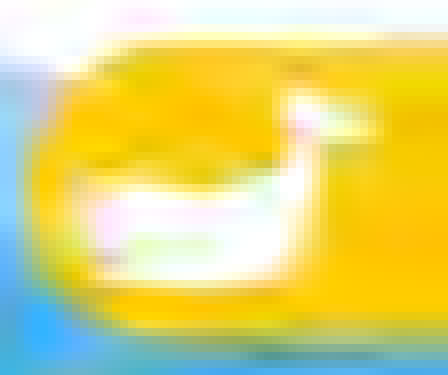
Sharks are a type of fish. They swim in every sea and some rivers. Most sharks have lots of teeth, but others have none.

I'm the **GREAT WHITE** shark, the deadliest hunter in the ocean!

Great white shark

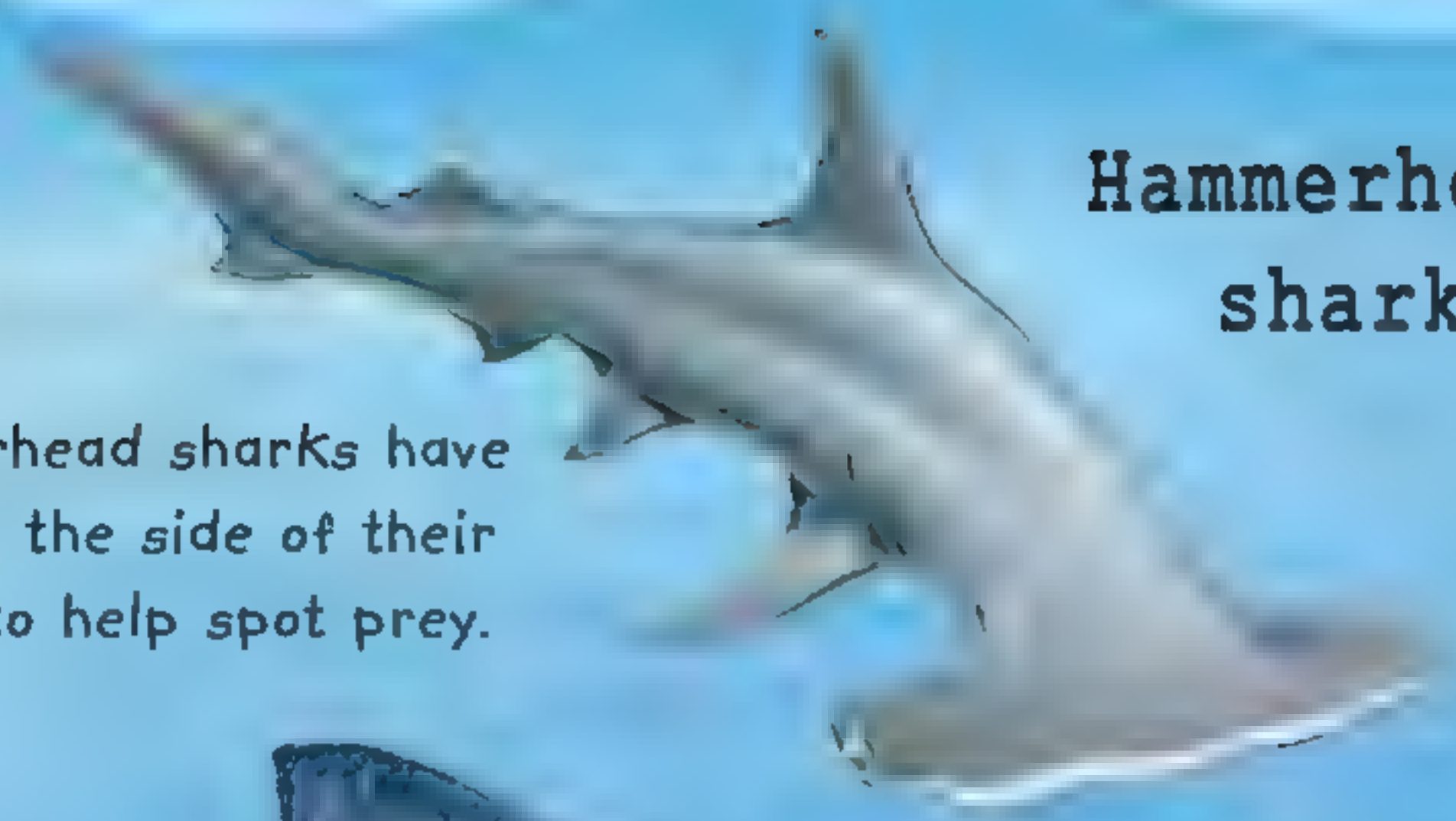
Sharp teeth





## Hammerhead shark

Hammerhead sharks have eyes on the side of their heads to help spot prey.



It may be the biggest shark in the world, but the whale shark is a gentle giant.

## Whale shark



A basking shark has a BIG, big mouth but NO teeth!

## Basking shark



Gills for breathing

## Tiger shark



I eat just about anything. Yum yum!

## Dwarf lantern shark

I'm the size of a banana!





# Primate party

These clever, curious, and chatty creatures are part of an animal group called **primates**. And guess what? People are primates too.

## Monkey business

If someone calls you a silly monkey, it's almost true! Humans are closely related to **chimps**, who are very smart apes (but not monkeys).

Orangutan



Orangutans love to eat fruit.

Chimpanzee



We are the smartest primates.





## Swing kings

Some primates, like monkeys, have **tails**, but chimpanzees and gorillas (which are both apes) do not.



Capuchin monkey

Monkeys can use their long tails to climb trees.

I live on the forest floor with my gorilla pals. I'm too big and heavy to live up in the trees.

Howler monkey



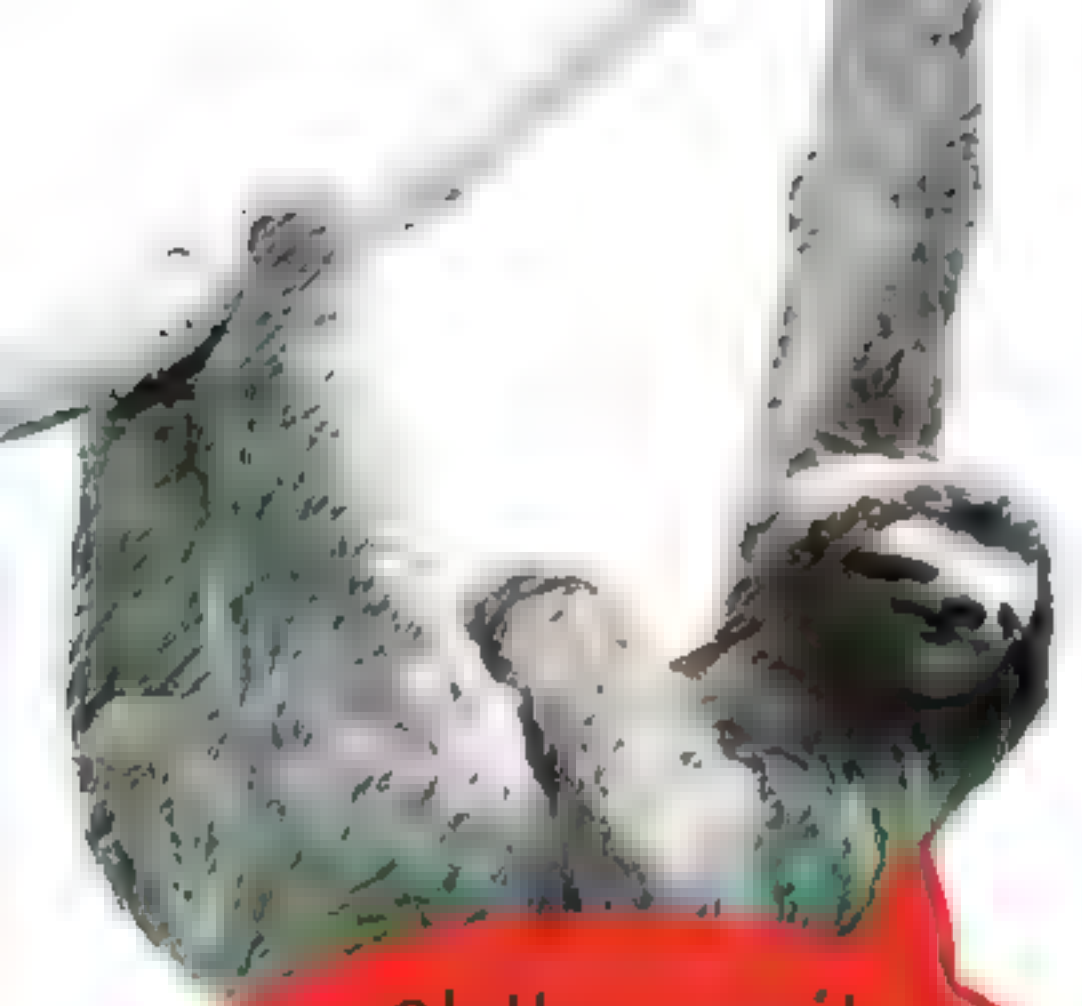
Cover your **EARS!**  
Howler monkeys are **VERY NOISY.**

Spider monkey



Gorilla

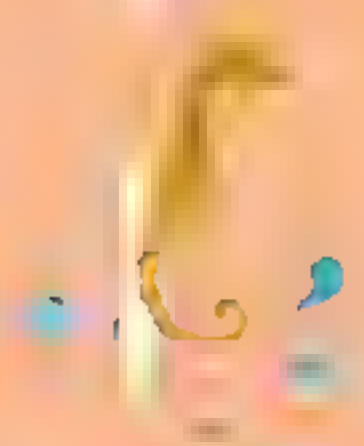
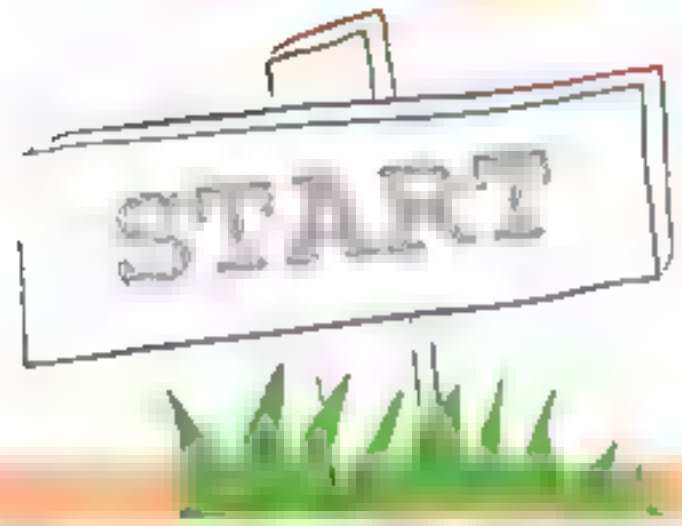




Sloths aren't lazy! We just take our time.

# Speedy species

How fast can you run? Check out the competition in the animal kingdom with these very **fast**, and very **slow**, animals.



## Sea horse

Sea horses are very slow swimmers.



Wait for me!

## Snail



## Human



## Ostrich

## Dolphin

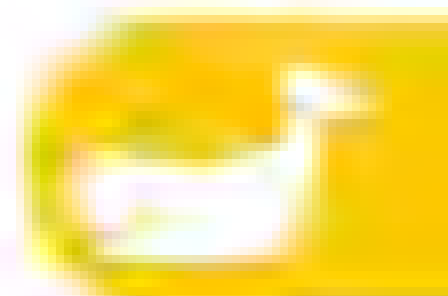


Dolphins can jump high out of the water.



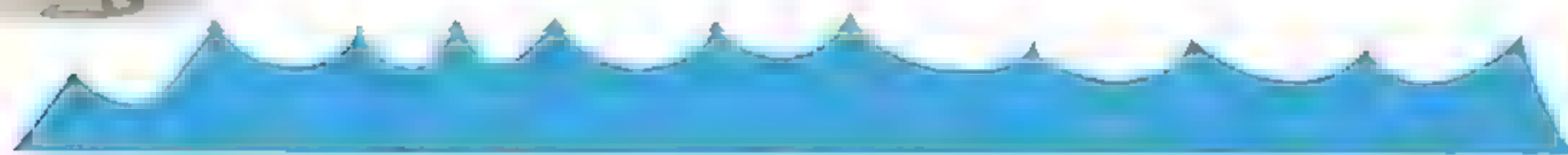
Ostriches may not be able to fly but they can run very fast!





## Strong swimmers

Polar bears can swim fast and cover huge distances. Scientists tracked a bear who swam for **nine days** without stopping to eat or sleep.



I dive to catch my prey.



Peregrine falcons can dive faster than any other animal can move!



Horse



## Alpine swift

Alpine swifts fly very quickly, and they hardly ever stop to perch or land.

## Cheetah



Cheetahs are the fastest land animal.

Look how quick I am!



Horse-fly



Sailfish

Look at me swim!



# Big cats

Have you seen pet cats relaxing,  
purring, chasing, and playing?  
Well big cats do that too!

## Hard to spot

Some big cats have **patterned fur**  
to keep them hidden when hunting.

Leopard

Cheetah

Cheetahs can  
run very fast!  
Don't let the  
yawn fool you.

## Tiger

Tigers are the  
**biggest** and  
**strongest** of  
all the big cats.

## Domestic cat

If you watch your pet  
cat, you'll see some  
**similarities** with  
the big cats!





## Purr-fect hunters

Big cats are **carnivores**. This means they eat meat, and have to hunt for their dinner.

Lions live in family groups called prides.



Lions

Female lionesses look after the cubs and do most of the hunting.



## Black panther

Panthers are really black leopards, but it's hard to see their **spots**.

## Snow leopard

Snow leopards have very **thick fur** to keep them warm on cold mountains.







# Animals after dark

While you sleep at night, a secret world is **waking up**.

Meet the curious creatures that come out after dark.

We call these animals **nocturnal**.



My long nose  
helps me to sniff  
out food

Aardvark

Armadillos have  
long tongues for  
catching ants.

Armadillo

Badger

Smell and hearing, touch and sight,

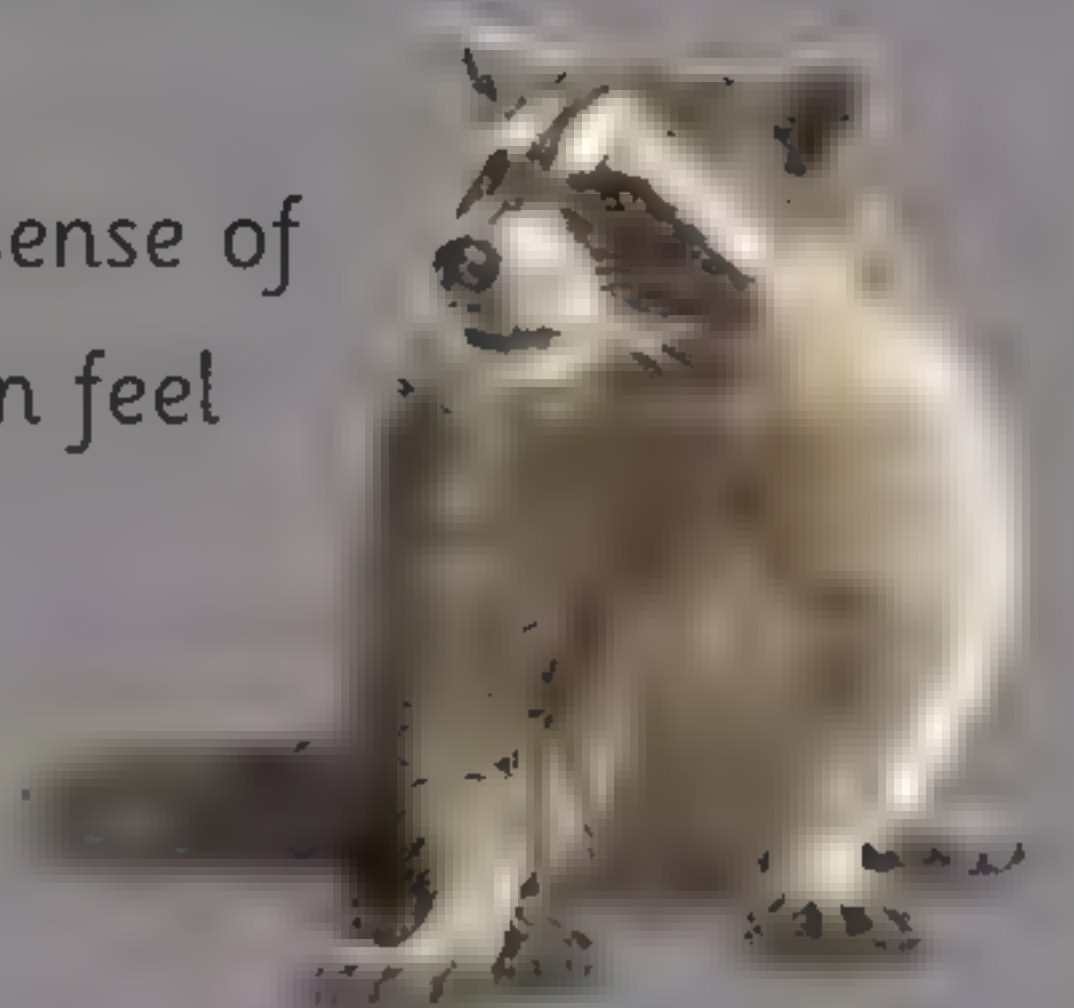


## Fennec fox

The smallest fox is called the fennec fox. It lives in hot, dry deserts and uses its big ears to **listen** for prey.

## Raccoon

Using an incredible sense of **touch**, raccoons can feel their way around in total darkness.





I fly so quietly that  
my prey never hears  
me coming.

## Right for night

Nocturnal animals have special nighttime powers like great **eyesight** or super **hearing** that help them in the dark.

Play-fighting  
helps fox cubs  
learn how  
to hunt.

Foxes



Hedgehog

Wolf

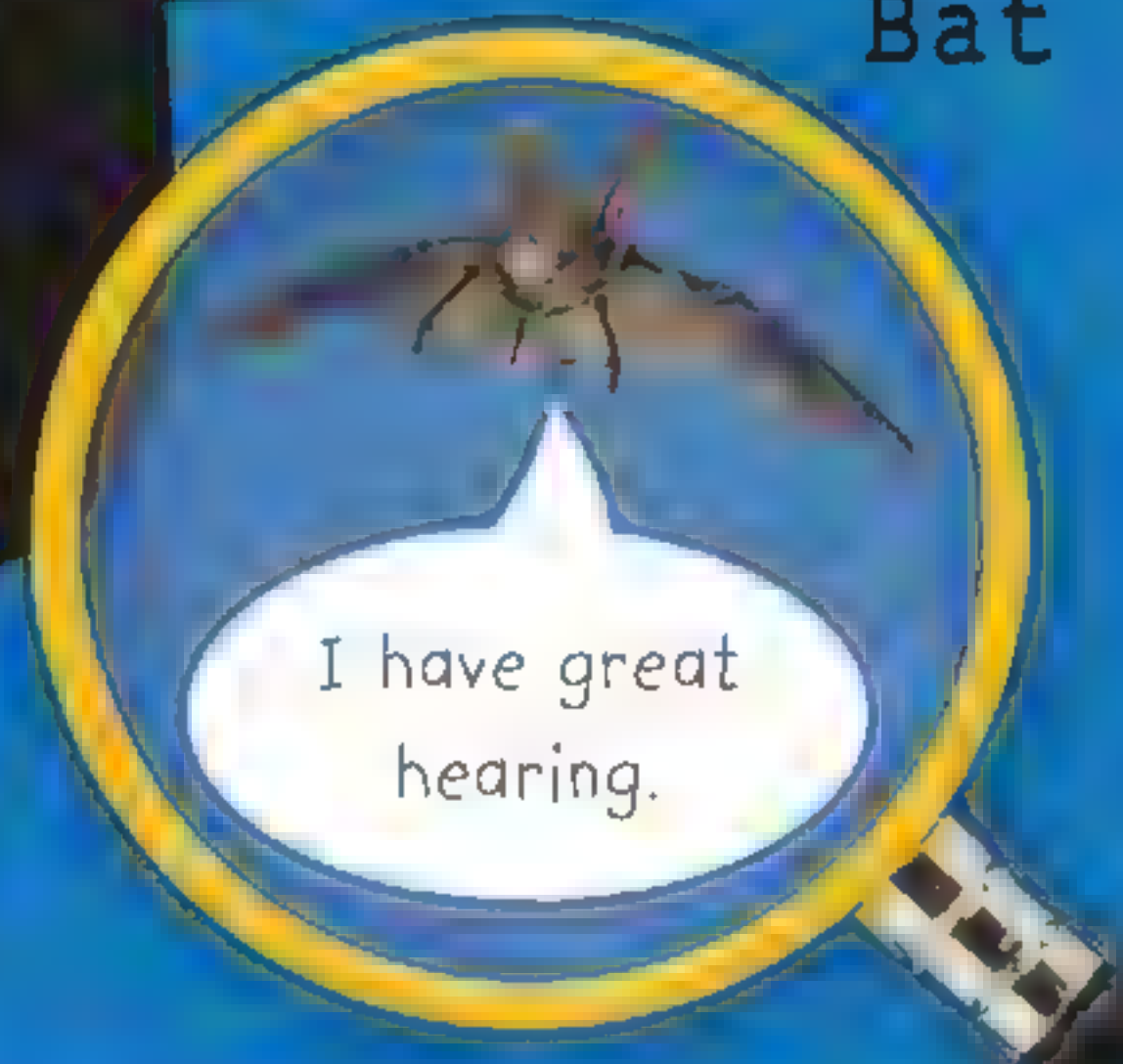
Wolves have super  
night vision—all the  
better to see you with!



Owl



Bat



I have great  
hearing.

help these creatures feed at night!

Kiwi

Kiwis live in New Zealand.  
They can't fly or see very well,  
but they have nostrils at the tip  
of their beaks to **sniff** out food.



Bush baby

These little creatures  
are found in Africa.  
They have big eyes  
that help them **see**.



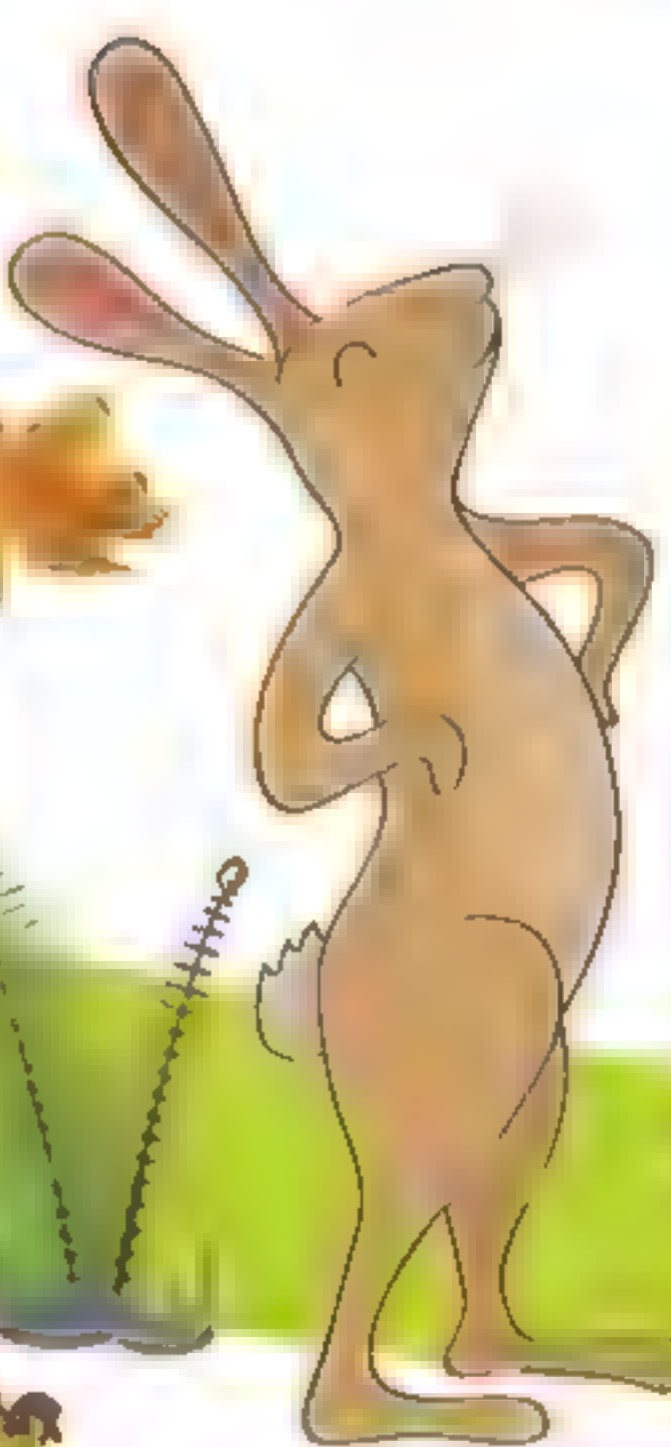








# The tortoise and the hare

There once was a **very fast hare** who  
loved to boast about his **super speed**.



One day, a wise old **tortoise**  
challenged the hare to a **race**.



Nearly there!

With the tortoise so far behind,  
the hare decided to stop for a  
relaxing **nap** under a tree.



He's making  
a mistake!



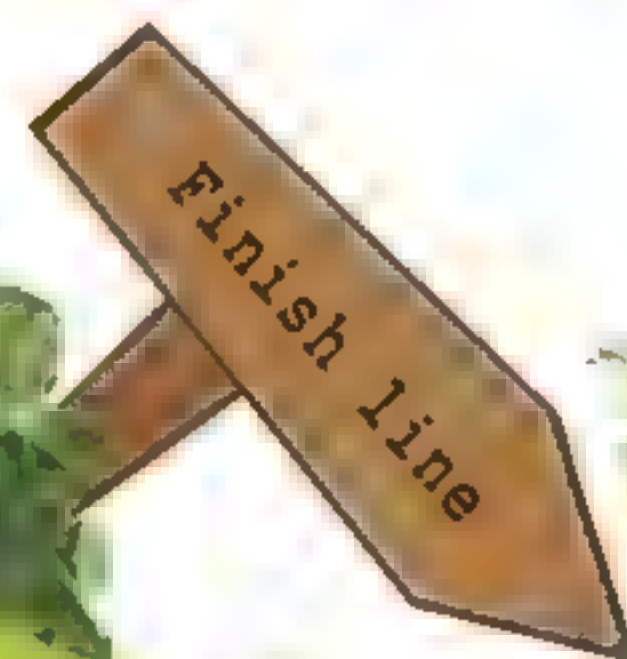
Because tortoises are **slow**, the hare thought he would win **easily**.



The hare sped away like a flash, while the tortoise plodded along **slowly and steadily**.



As the hare slept, the tortoise caught up and walked past him on his way to the **finish line**.



The tortoise was **proud** that he didn't give up, and the hare felt **silly** for being so careless.





Very important things about





# people



The way we live today is all thanks to the people who have **created** and **discovered** wonderful things. We've come a long way since humans were living in caves, and now we can cure lots of diseases, travel around the world, and even go to the moon!







# Very early humans

A lot of what we know about **early people**, we learned from things they made and their cave paintings.

Early people would have had to live near water, so lots of cave paintings show rivers and streams.

Saber-toothed tiger

### How did they do it?

Some drawings were scratched into rocks, but others were made with a kind of paint made from **animal fat** and charcoal.





Mammoths don't exist today. They were like bigger, hairier elephants.

Lots of cave paintings show pictures of people hunting for their food.

Mammoth

Hunting tools

Woolly rhino

### Clever clues

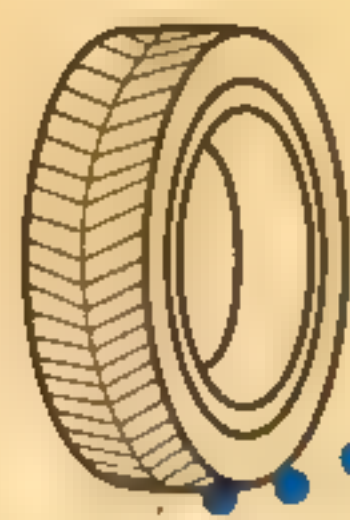
We don't know much about early humans, so their cave paintings give us helpful clues.





# Early discoveries

These discoveries seem so simple to us now, but they were all so important that it's impossible to imagine our world without them.



We first made fires by rubbing sticks together.



## Fire

Learning how to make fire meant we could **cook** our food. Over time, this changed our brains and bodies, which allowed us to become smart enough to invent and discover other things.

Fire was (and still is) a very important source of heat and light.

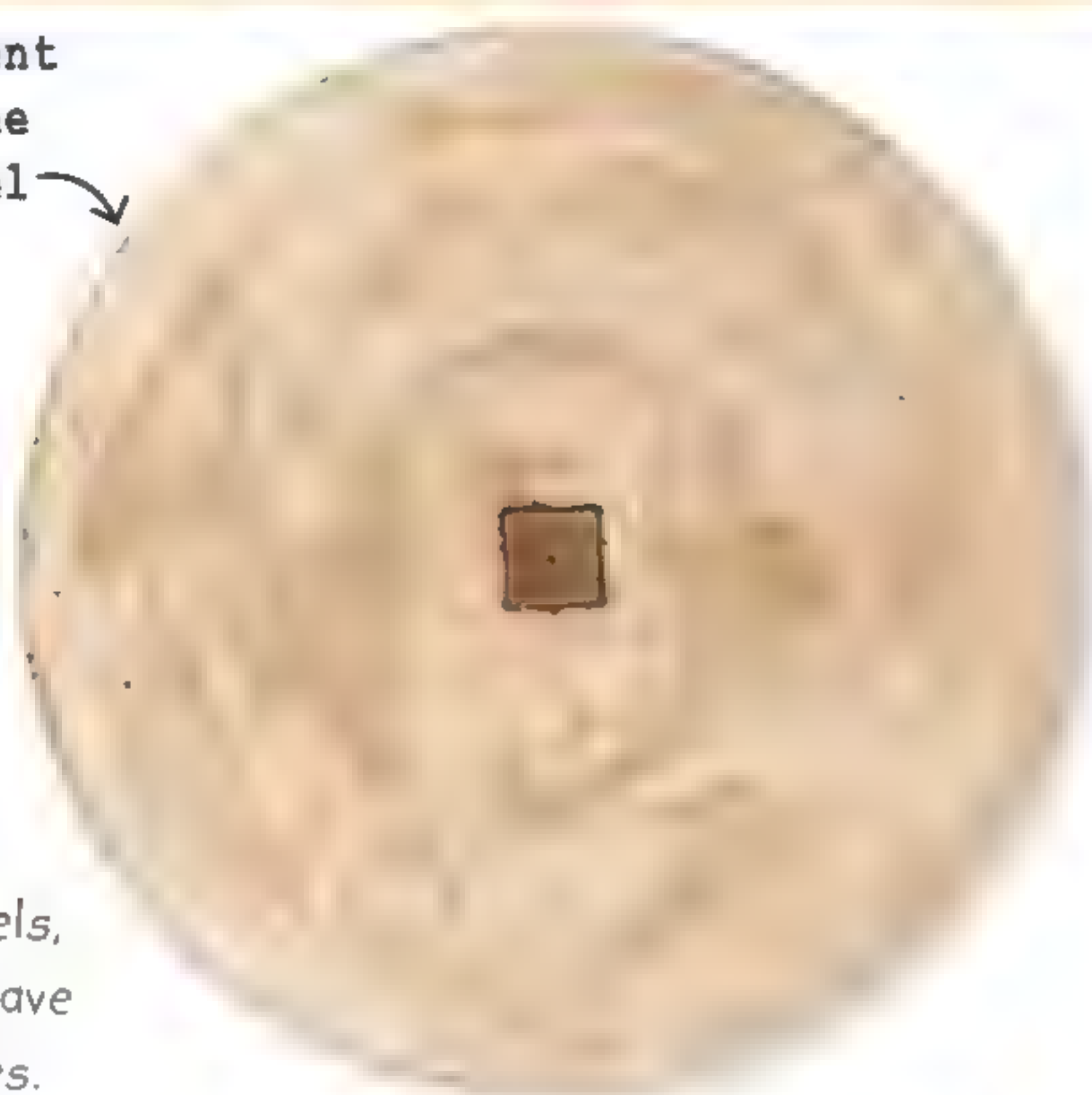




## The wheel

We still use wheels to get around and move **heavy** objects, but before the wheel was invented we could only push heavy things or roll them over logs!

Ancient stone wheel



This is VERY heavy!

Without wheels, we wouldn't have cars or bikes.



## Tools

All sorts of jobs, such as hunting, making clothes, and farming the land, became much easier when we started making and using tools.

Early tools

We're still inventing new types of tools today.







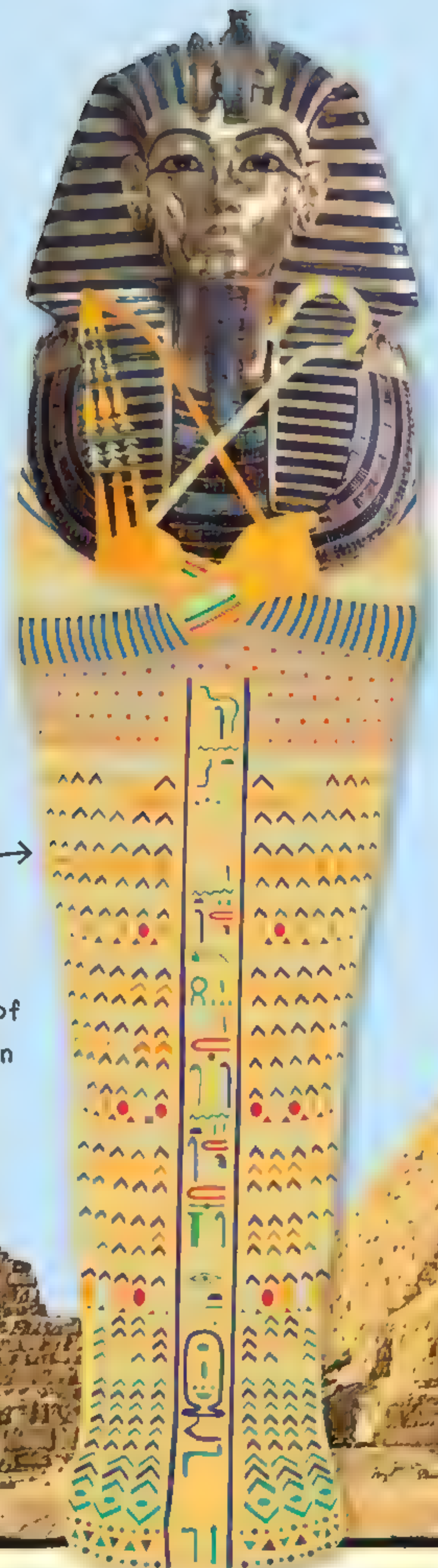
# The time of the pharaohs

A long, long time ago powerful people called **pharaohs** ruled over the land of **ancient Egypt**.

## Mummy mystery

When a pharaoh died he was made into a **mummy** and buried in a fancy box called a sarcophagus (sar-COFF-a-guss).

This is the sarcophagus of the pharaoh Tutankhamun (toot-en-car-moon).



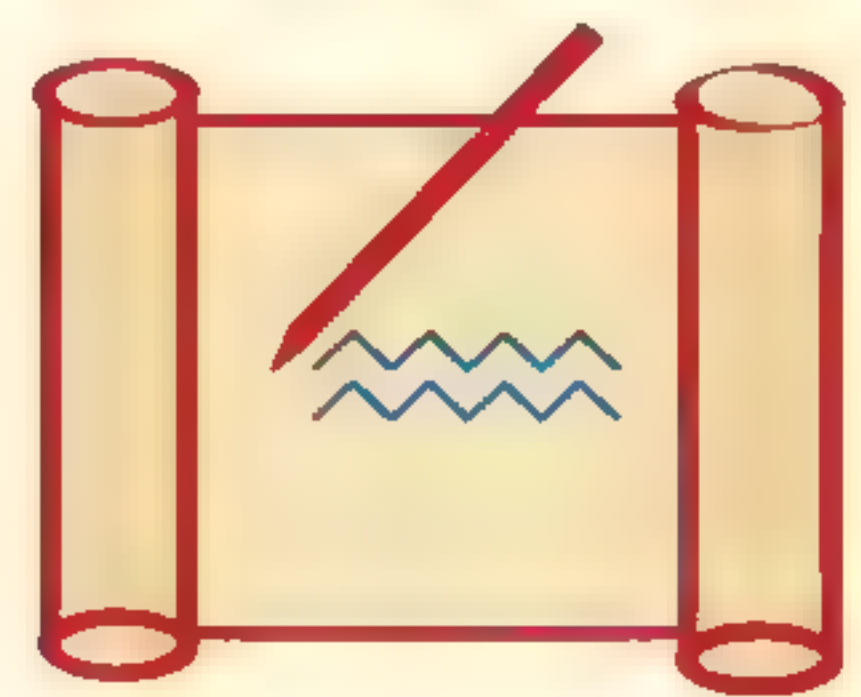
## Then and now

Even though they lived so long ago, the ancient Egyptians did a lot of things that we do today.

**THEY WORE MAKEUP**  
Men and women wore eyeliner.



**THEY WROTE THINGS DOWN**  
Their writing even had pictures.







Mummies were wrapped up in bandages before they were buried.

The tallest building in the ancient world was the Great Pyramid at Giza. It still stands today.

The **pyramids** were built as tombs for pharaohs. Mummies were buried with special items such as jewels.

Meow!



THEY WORE SOCKS  
Yes, really!

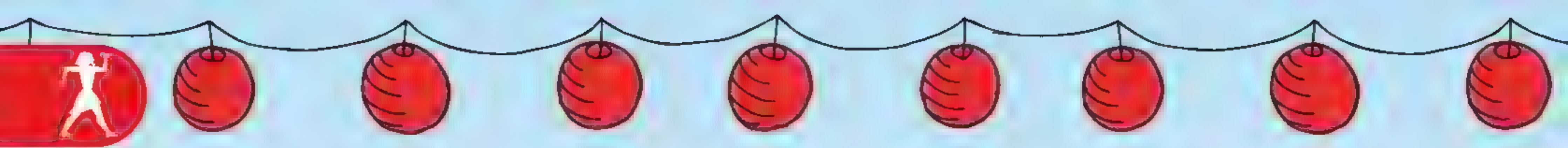


THEY CLEANED THEIR TEETH  
The Egyptians even invented a type of breath mint!



THEY HAD CATS  
Cats were seen as very important. Some were made into mummies.





# Ancient China

During the country's **long** history,  
Chinese people have built, discovered,  
and invented many important things.



**Terra-cotta  
army**



**Tea**



**Silk**

More than 8,000  
**life-sized statues**  
of soldiers protect the  
first emperor of China's  
grave. Every soldier  
has a different face.

**Tea** is very important  
to China's history.  
Many people still host  
special ceremonies  
with tea to  
this day.

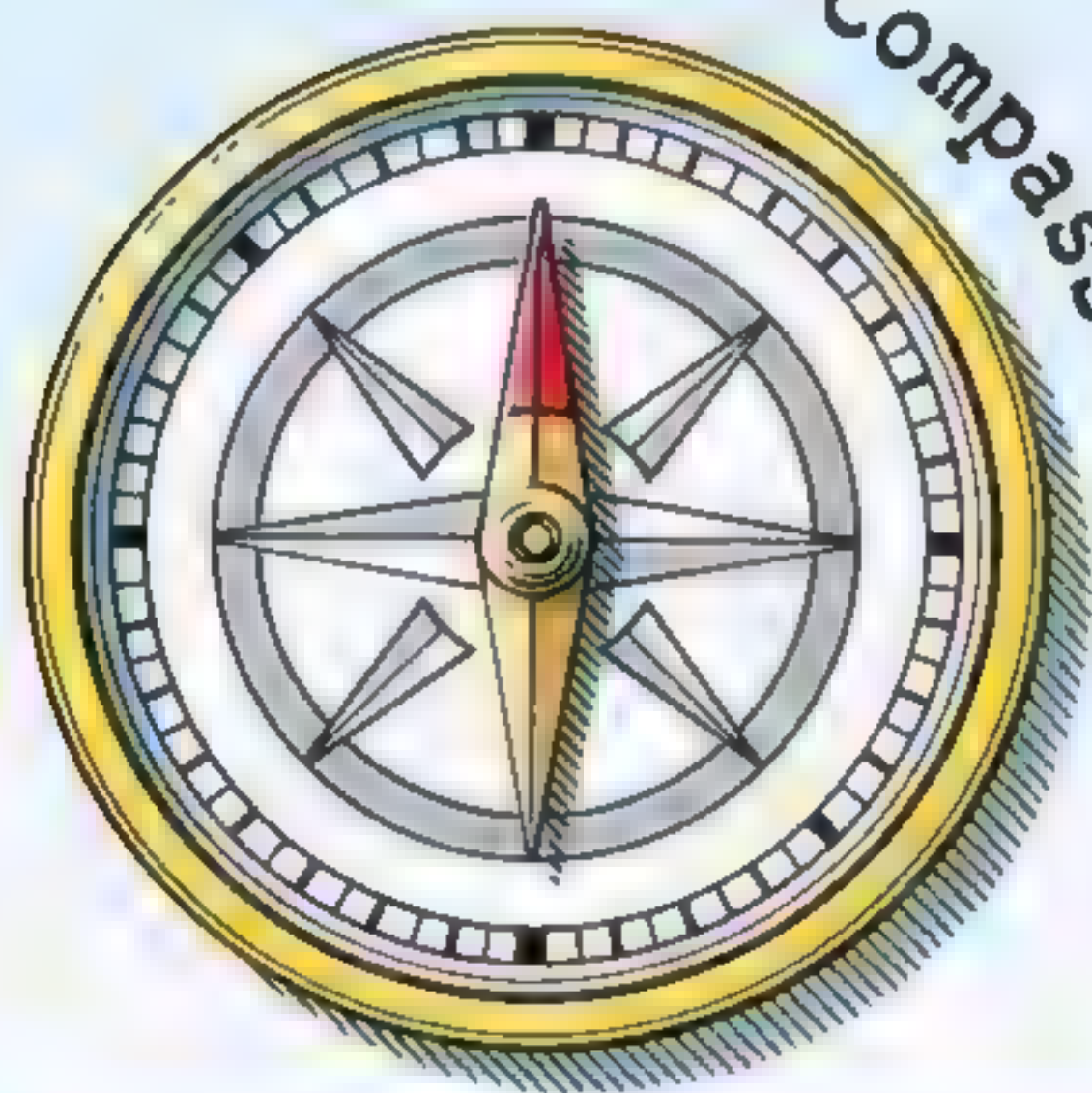
The way to make silk  
was kept a secret for  
years and years!

The Chinese figured  
out how to make **silk**  
from silkworm cocoons  
and used it to  
make kites  
and fancy  
clothes.

The Great Wall  
of China.



Gunpowder, paper, printing, and the compass are often called China's Four Great Inventions.



Compass

Gunpowder is what makes fireworks go BANG!



Kite



The **compass** was a Chinese invention that helped sailors and explorers find their way at sea.



More than just a fun toy, Chinese people used **kites** to test the speed of the wind and send signals to each other.



There aren't many things more important than paper. Without paper, you couldn't read this book!



The Chinese use symbols, not letters.





# Aborigines

Aborigines means  
"original inhabitants."

The aboriginal people lived in Australia  
**long before** anyone else, and they  
still live there today. Their way of life  
has continued for thousands of years.

Uluru



Sticks were used to make fire.

Many Aborigines feel connected  
to the **land**. They have many  
beliefs, stories, and legends about  
how the world was created.

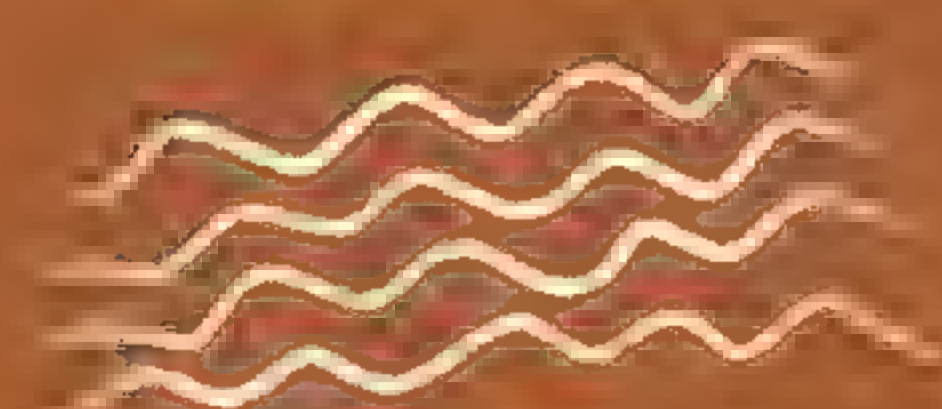
Many aboriginal people tell tales about the world through

## Signs and symbols

Aboriginal art uses symbols  
to tell stories. This is what  
a few of the symbols mean.



Human footprint



River





Boomerangs are sticks that come back when you throw them.

The didgeridoo is an ancient musical instrument.

**Uluru** is a massive rock that is very important to Aborigines. At the bottom, there are caves filled with ancient paintings.

# MUSIC, DANCE, STORIES, and ART.



Men around campfire



Kangaroo tracks



Water hole





# Really modern Romans

The **ancient Romans** were a group of people who lived long ago. But much of their lives were really quite modern.

## Water ways

The Romans invented **aqueducts**. These special bridges carried water to towns and villages.

## Big baths

Most Romans didn't have baths at home. They went to public baths and had to wash with their friends.

We Romans loved big feasts.


## Now and then

The Romans were really clever. They used or invented a lot of things that we still have today!

They figured out how to blow into hot glass to make goblets.

They had toilets and sewers!





When it erupted, Mount Vesuvius destroyed  
the city of Pompeii and covered it in ash.

Romans went to stadiums,  
like the Colosseum in  
Rome, to watch shows.  
The Colosseum still  
stands today!

Roman  
chariot

Romans enjoyed  
watching gladiator fights.  
Sometimes, gladiators  
even fought lions!

The Romans built long, straight roads.

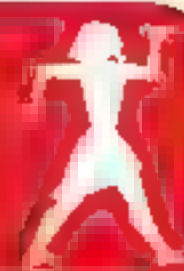
"I came, I saw,  
I conquered."

Julius Caesar,  
a Roman emperor,  
once said this.  
Emperors were often  
power hungry and they  
conquered many lands.

They were the  
first people to  
use concrete  
for building.

They had police  
and fire fighters!





# Viking raiders

Coming from Scandinavia (that's Norway, Denmark, and Sweden), the Vikings were the fierce warriors, raiders, traders, and invaders of old Europe.

## Super ships

Viking longships could travel in deep or shallow water. This allowed the Vikings to travel up rivers for sneak attacks.



Brilliant at **surprise attacks**, Vikings were very fearsome fighters who took lots of weapons and armor into battle.



Sharp axes and spears were sometimes thrown at their enemies.



Viking swords were very strong and sharp on both edges.





## Powerful people

The Vikings believed in the Norse gods.

They include **Odin**, the god of war,

**Freyja**, the goddess of love,

and **Thor**, the god of thunder.



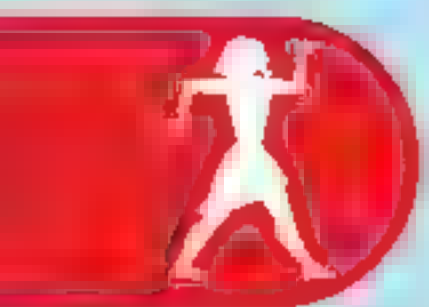
Many people think Vikings had horns on their helmets, but they didn't! It would have been too easy to knock them off!



Viking shields were made of wood and had an iron center which protected the hand.







# Ancient Americans

From farmers and builders to warriors and thinkers, many different ancient civilizations once called Central and South America home.

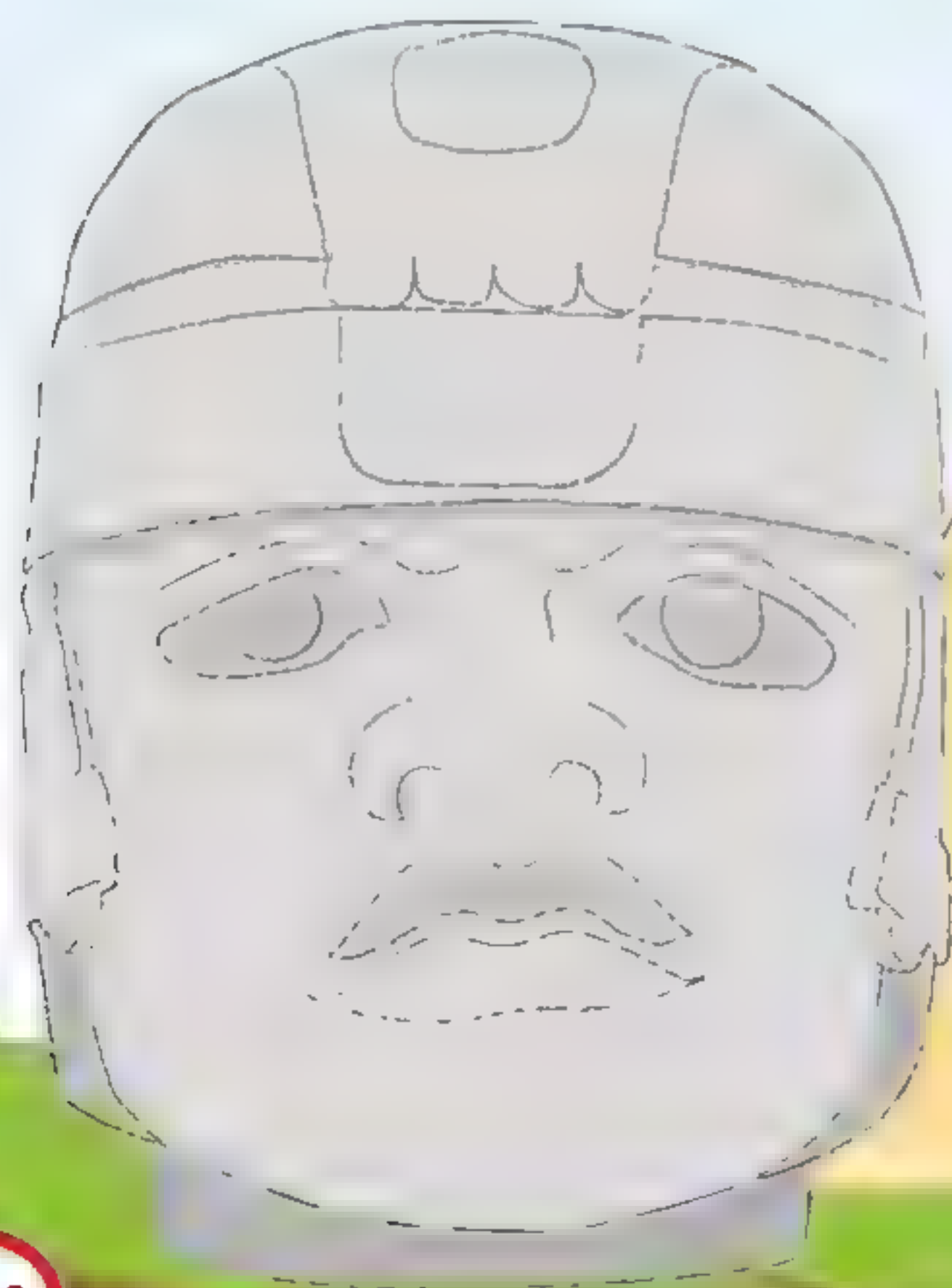
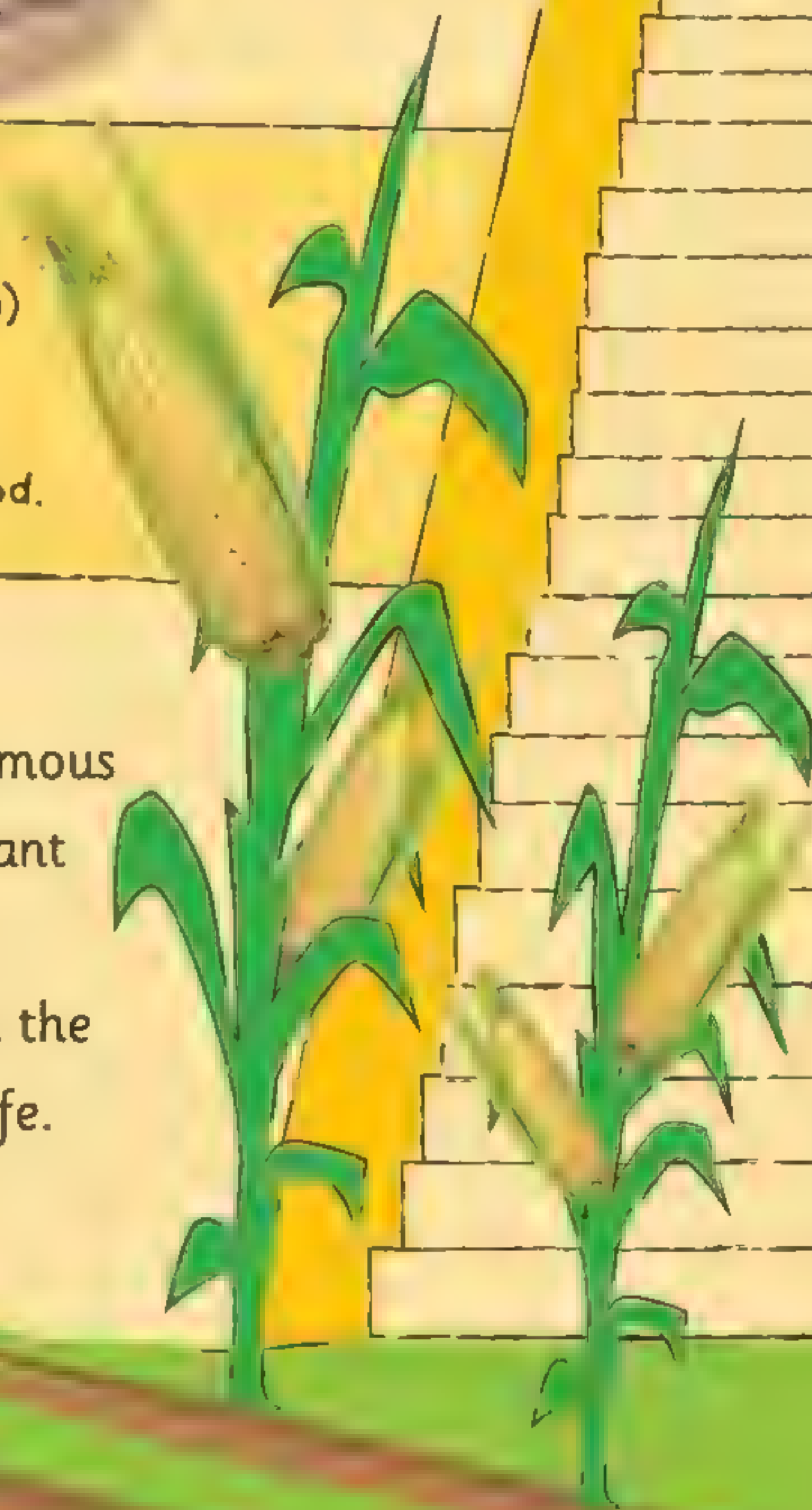
## What links them?

Although these people lived in different places at different times, farming **maize** was very important to their way of life. They also all built many great temples and statues, and worshipped lots of gods.



Patterned Aztec pot

Maize (corn) was a very important source of food.



## The Olmec

The Olmec are most famous for building statues of giant heads. Many people think the Olmec influenced both the Maya and Aztec way of life.





## The Maya

The Maya were one of the most advanced ancient civilizations. They invented a writing system using numbers, pictures, and letters.

The Maya studied the sky and the stars. They created a calendar by watching the planets.

Cocoa beans were used to make a drink called chocolatl. The Aztecs drank it cold, and the Maya drank it hot.

Cocoa beans

## The Aztecs

A group of mighty warriors, the Aztecs built up a large empire in what is now Central Mexico.

Machu Picchu

Machu Picchu was an Inca city built high up in the Andes mountains.

Golden llama

Jug

## The Inca

The largest empire of South America, the Inca made many objects from gold. They believed it was the sweat of the sun!



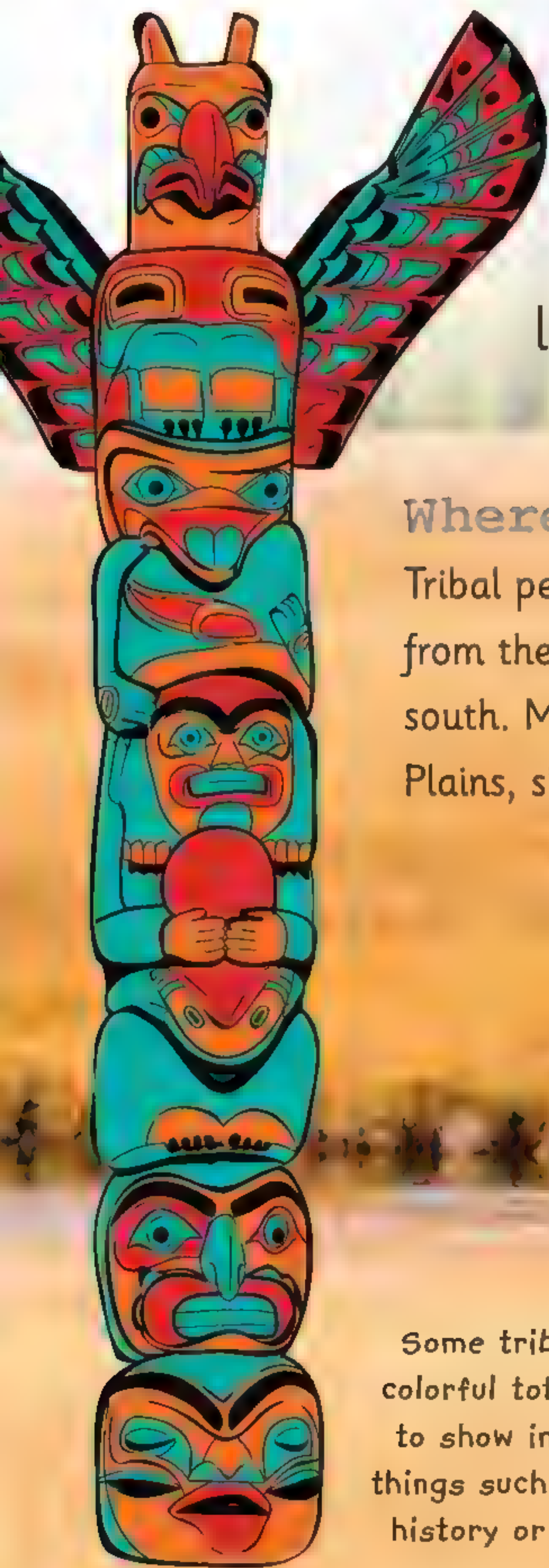


# Native Americans

Long before Christopher Columbus sailed across the ocean to the New World, native tribal people were already living all over North America.

## Where were they?

Tribal people lived all over the land, from the freezing north to deserts in the south. Many tribes traveled the Great Plains, sleeping in tents called tepees.



Totem pole

Some tribes built colorful totem poles to show important things such as family history or legends.



Some tribes believed a dance could bring rain to help crops grow.





## Special items

Native American tribes invented many things, including lacrosse and tobogganing.

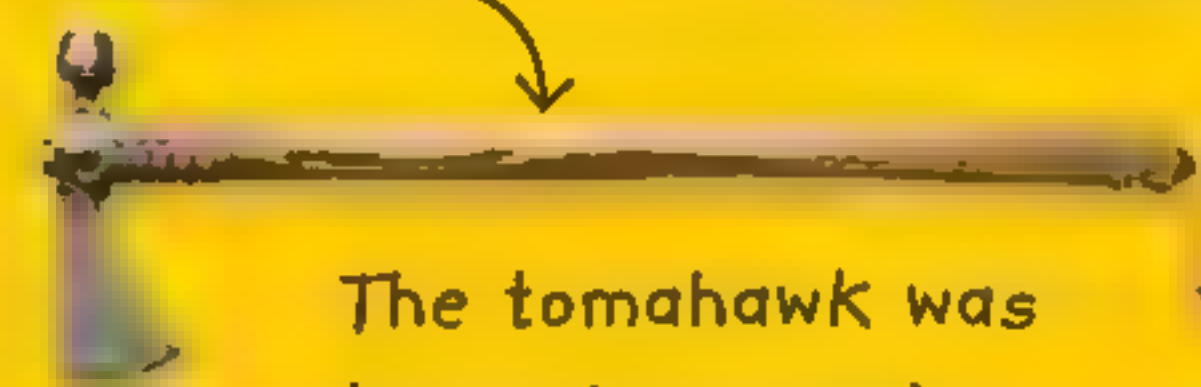


Eagle feathers

This war shield was used by the Taos Pueblo people.

The most respected warriors of some tribes wore special war bonnets.

Ceremonial tomahawk



The tomahawk was a type of ax used as a tool or a weapon.



Tepees

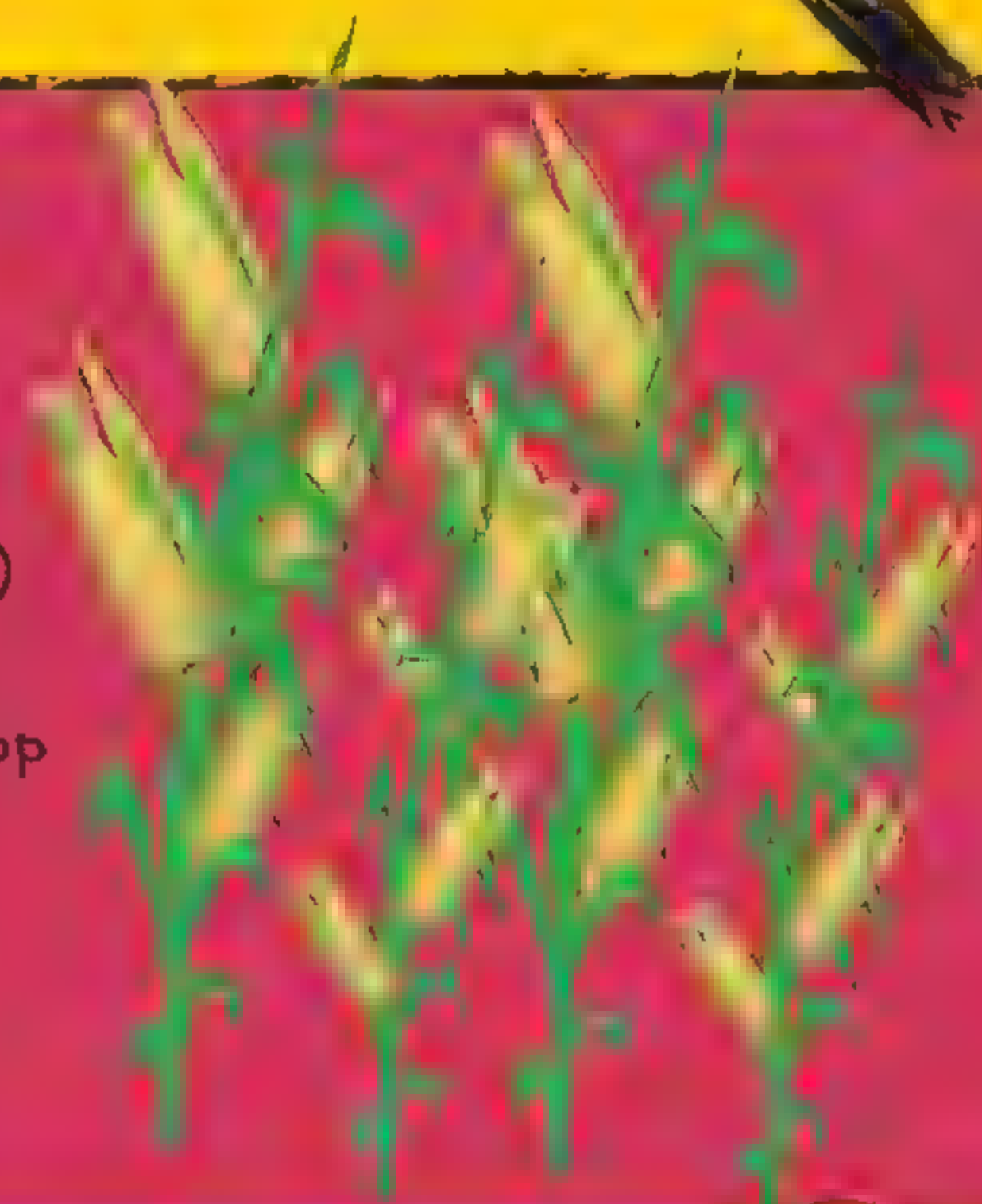
American buffalo



## Ways of life

Every tribe was different. Some were farmers and fishermen and others were hunters and warriors.

Corn (maize) was a very important crop and source of food.





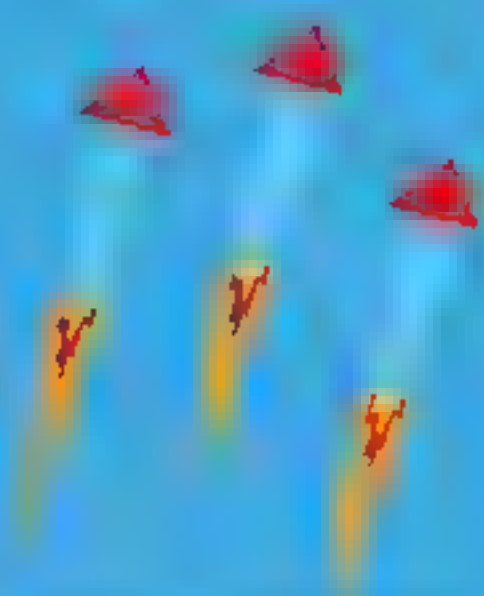


# Festivals and celebrations

Old or new, big or small, important or just for fun, **festivals** are a great way for people to come together and celebrate!

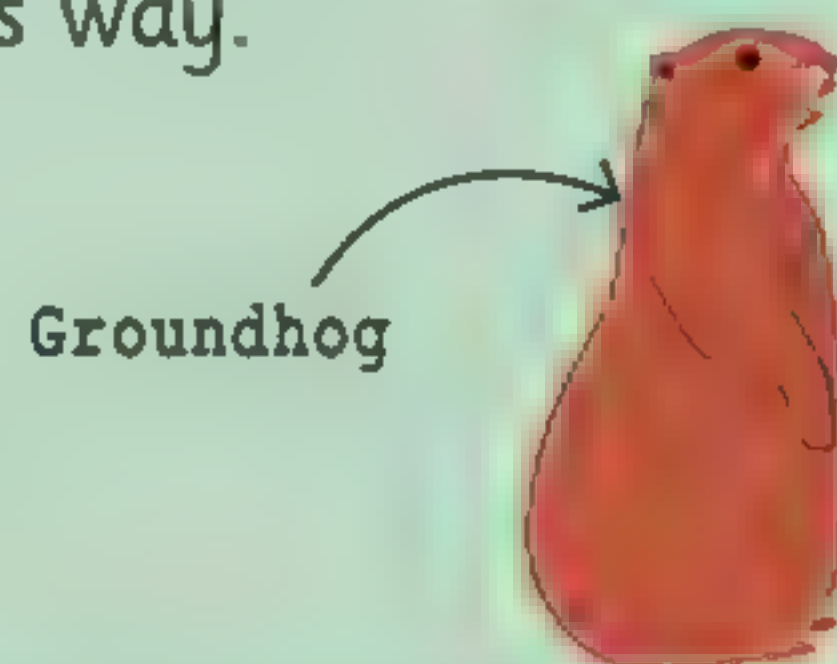
## January

**New Year's Day** celebrates the beginning of the year—often with fireworks.



## February

**Groundhog Day** is an American tradition to celebrate that spring is on its way.



## March

For **Hinamatsuri**, Japanese people display dolls to wish young girls happiness and health.



## July

The **Mud Festival** in South Korea is all about mud, and how great it is!



## August

**Awa Odori** is a traditional Japanese street dance festival.



## September

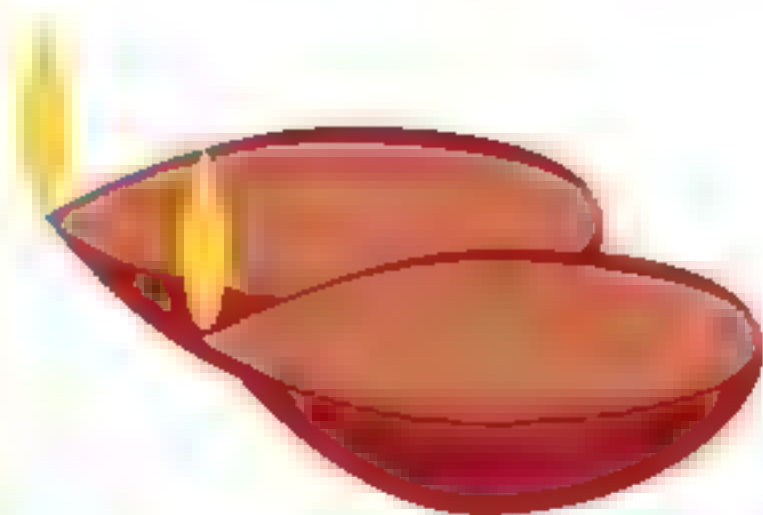
South African people celebrate their culture on **Heritage Day**, with big feasts.





## Diwali

The Hindu festival of **light** is a time where people pray for good fortune.



## Chinese New Year

A very important Chinese holiday that invites good luck.



## Passover

A Jewish holiday that remembers **Moses** with a meal called "seder."



## Eid al-Fitr

Muslims celebrate the end of Ramadan with a big meal full of very special **treats**.



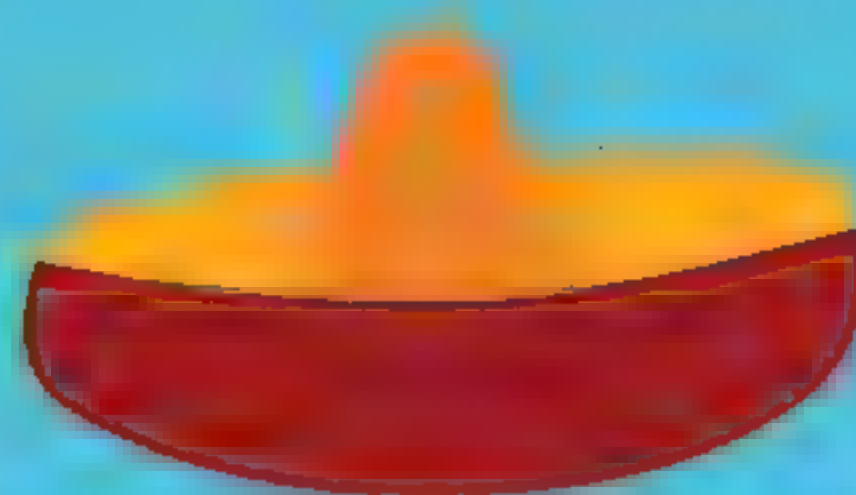
## April

**Songkran** is a New Year's celebration in Thailand where people have big water fights!



## May

**Cinco de Mayo** remembers a Mexican victory with parades, dancing, and food.



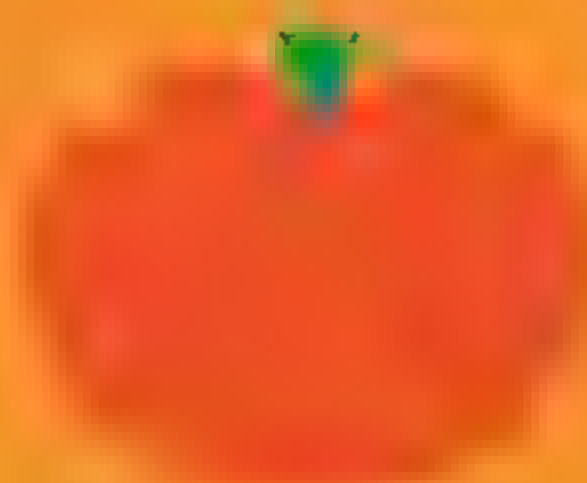
## June

The Andean people hold **Inti Raymi**, the Incan Sun Festival, on the shortest day of the year.



## October

During **Halloween**, children dress up in scary costumes and eat candy.



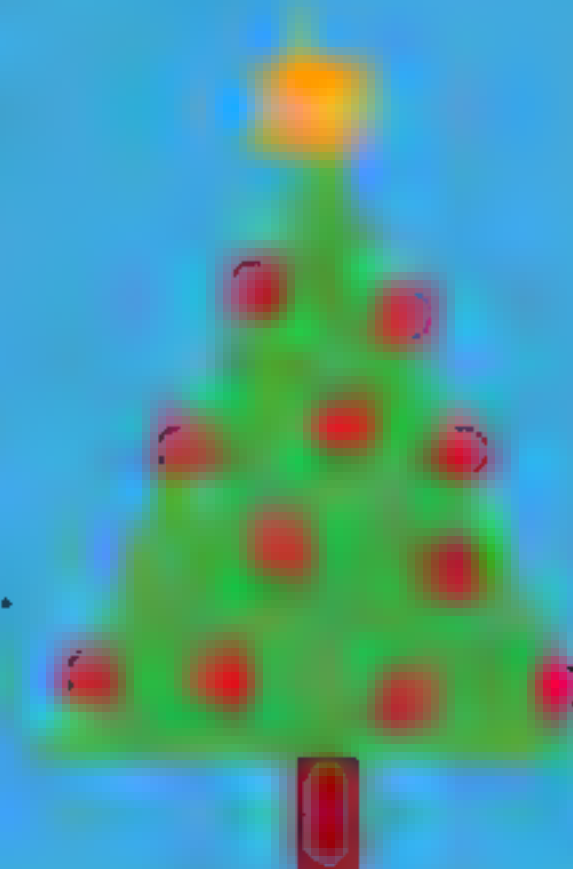
## November

**Dia de los Muertos** remembers those who have died through food and decorations.



## December

**Christmas** is a Christian holiday that celebrates the birth of Jesus.







# Eager explorers

These amazing **travelers** journeyed to different parts of the world, allowing different cultures to learn about each other for the first time.



I was searching  
for a faster way  
to travel to Asia.  
Instead I found  
the **AMERICAS!**



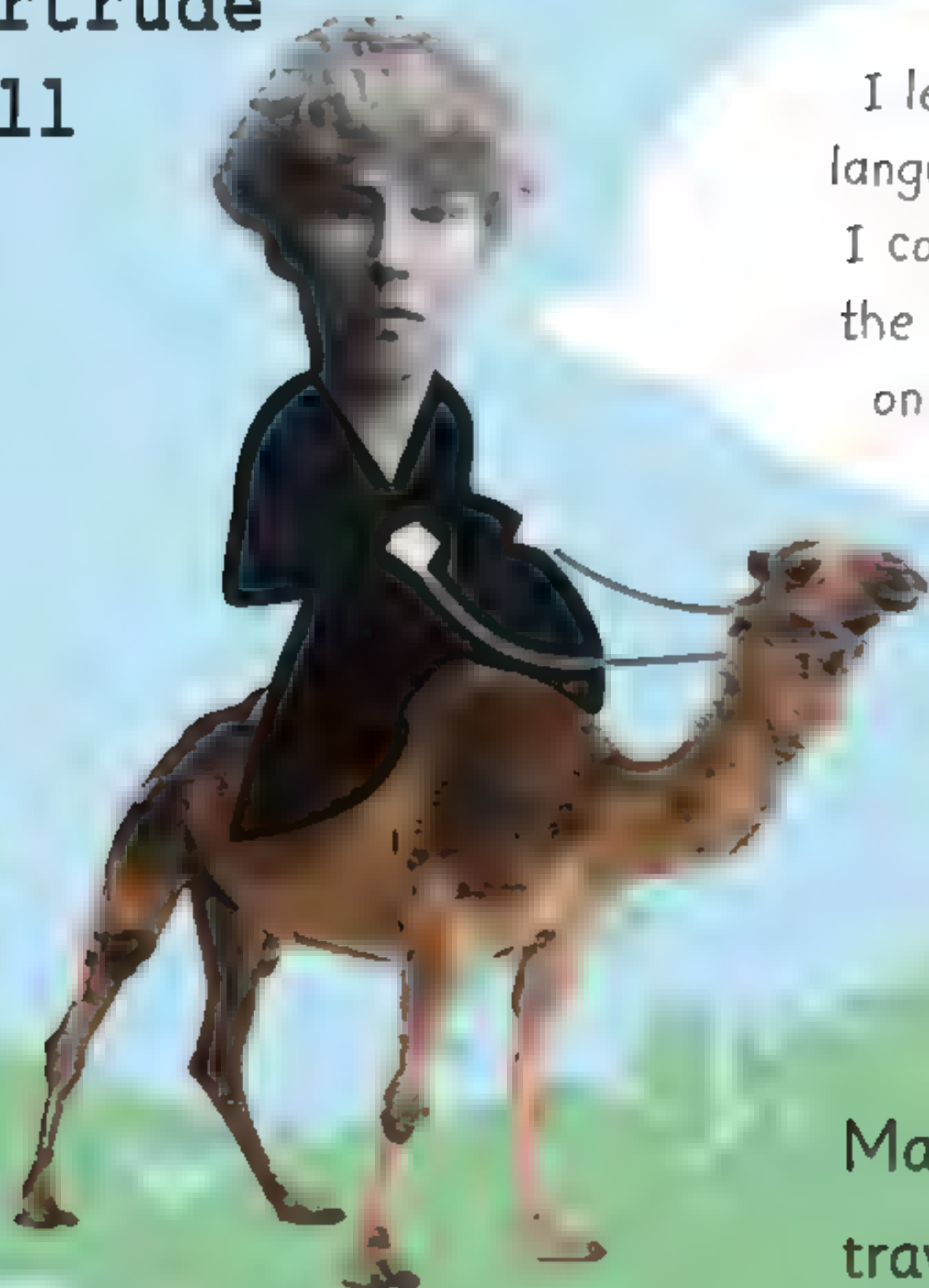
Christopher Columbus

Columbus was the first **European** to start a colony in the Americas, but many native people lived there first.





## Gertrude Bell



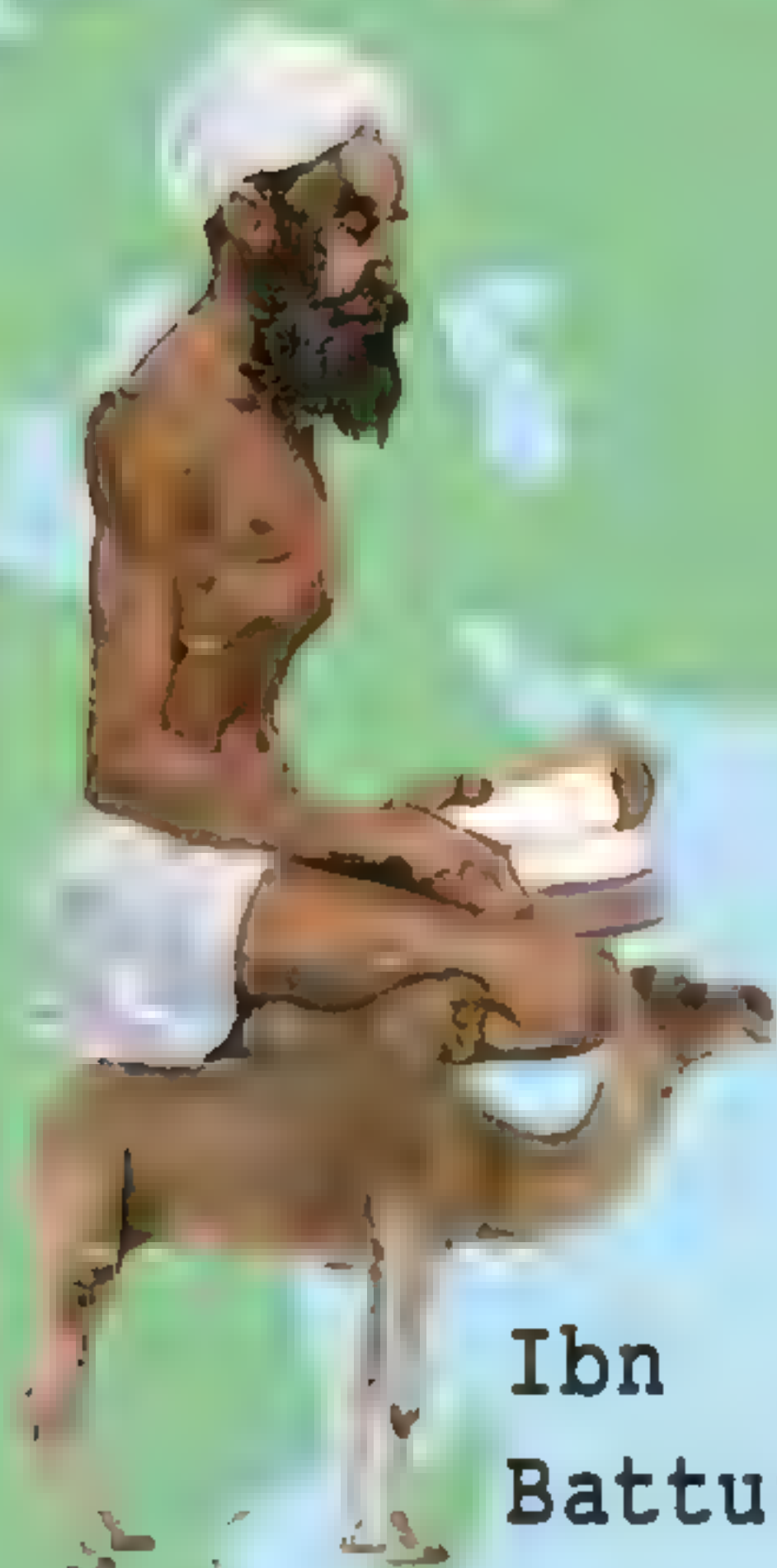
I learned eight languages so that I could speak to the people I met on my travels.

Gertrude Bell explored the history and cultures of the **Middle East**. She was also a spy for the British during World War I!

## Marco Polo



Marco Polo spent 24 years traveling around **Asia**. He returned to Europe and told people about lots of Chinese inventions.



## Ibn Battuta

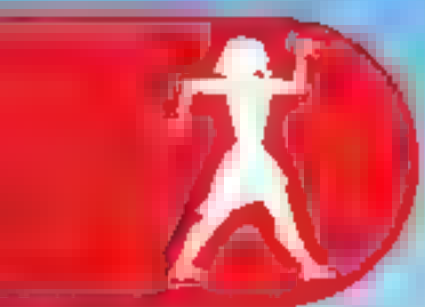
After spending most of his life traveling around Africa, Asia, and the Middle East, Battuta wrote a **book** about his journey.



## Zheng He

The Chinese explorer Zheng He led more than 300 ships on **seven expeditions** to explore Asia and Africa.





# Important inventors

These **brain boxes** are just some of the clever inventors whose ideas helped change our world.



Paper

Before **Cai Lun** invented **paper**, people had to make do with writing and drawing on cave walls, silk, or even bone!

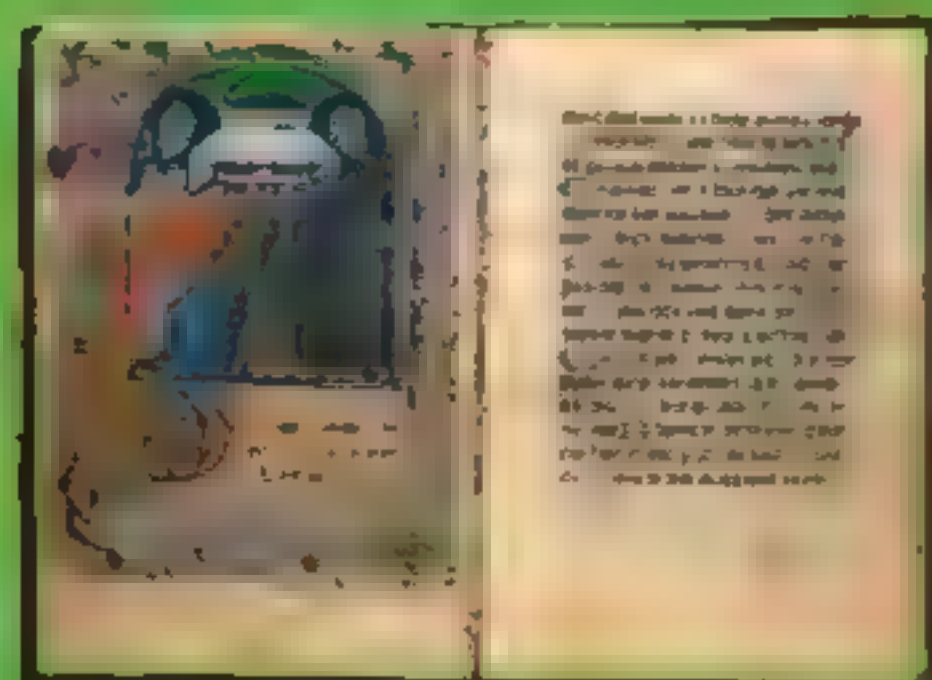


← Cai Lun used squashed up plants to make paper.

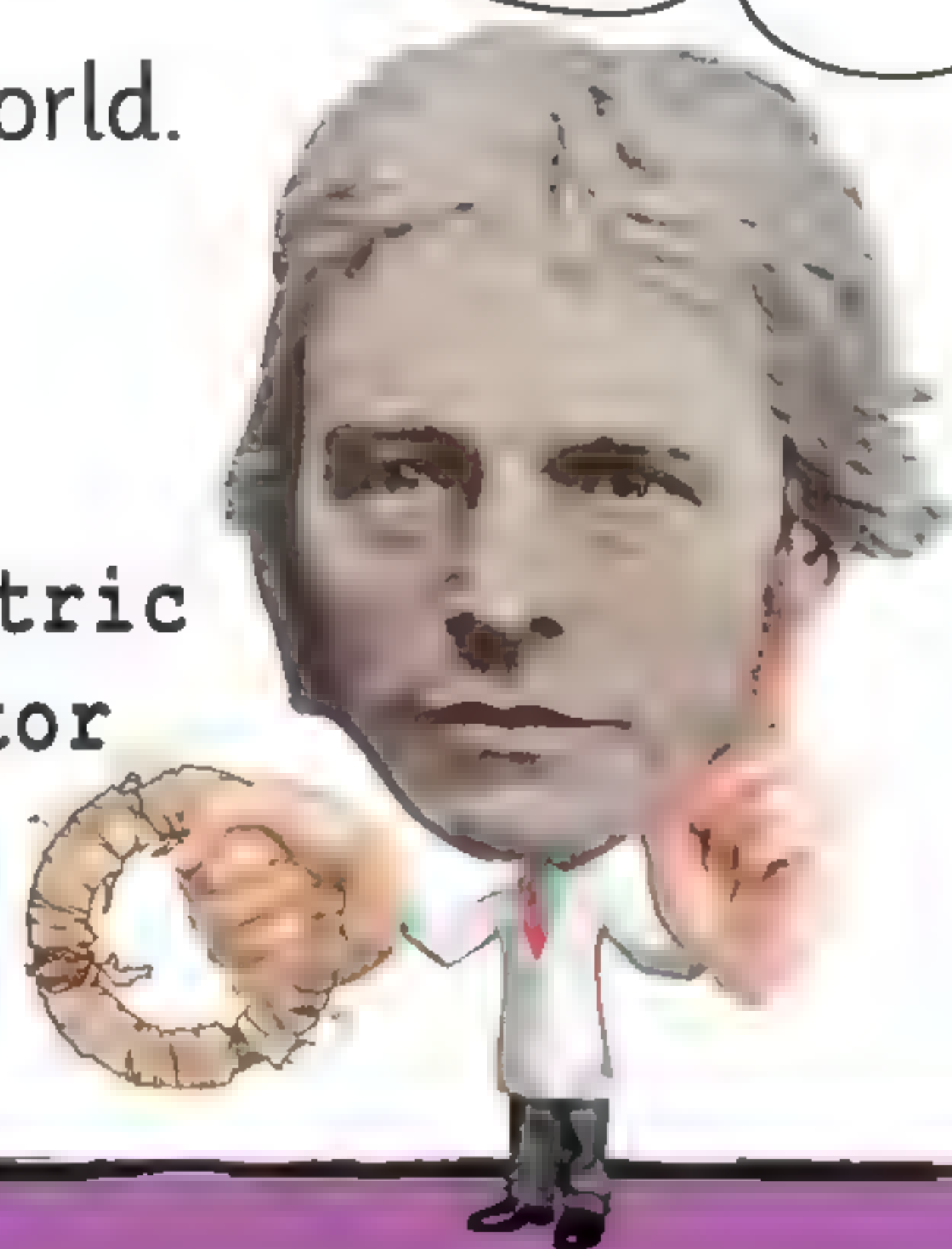


Printing  
press

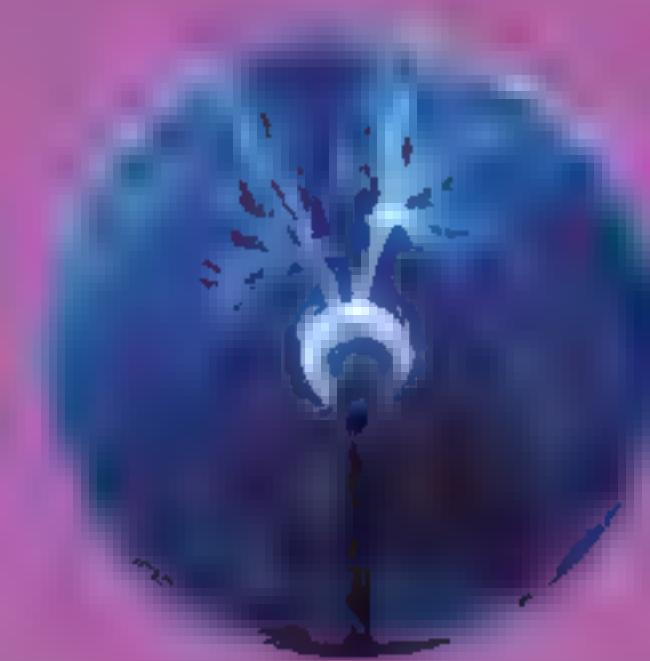
Without **Johannes Gutenberg**, you would not be reading this book! His **printing press** allowed people to share their ideas and stories.



Electric  
motor



**Michael Faraday** was a master of electricity. He worked with electricity and magnets, and created the first **electric motor**.



Faraday made lots of other discoveries using electricity.





Light bulb

**Thomas Edison's** brightest idea was to create a new and improved **light bulb**. If it wasn't for his work, you might be reading this book by candlelight!

Edison invented hundreds of things during his lifetime.



Airplane

The **Wright brothers**, Orville and Wilbur, took to the skies with the first powered **airplane**.



Propellers are turned by the engine to move the plane.

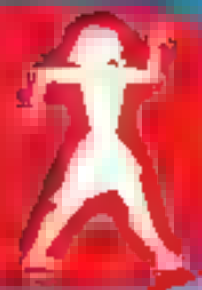
World Wide Web



**Tim Berners-Lee** had a very clever plan for computers all over the world be able to communicate. This is known as the **World Wide Web**.





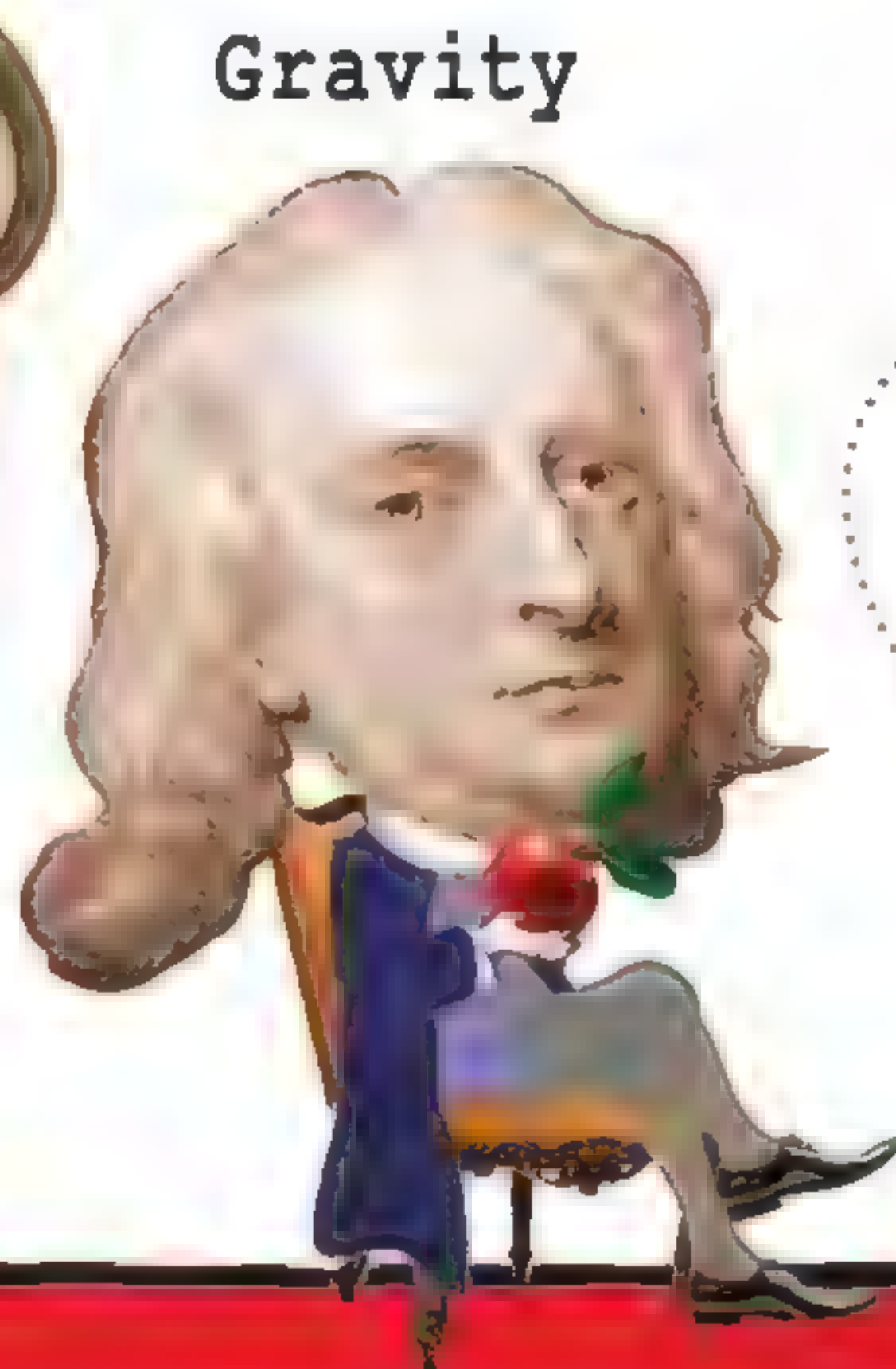


# Super scientists

Scientists help us understand our world. So without these clever people, we'd know **much less** than we do!



Planets

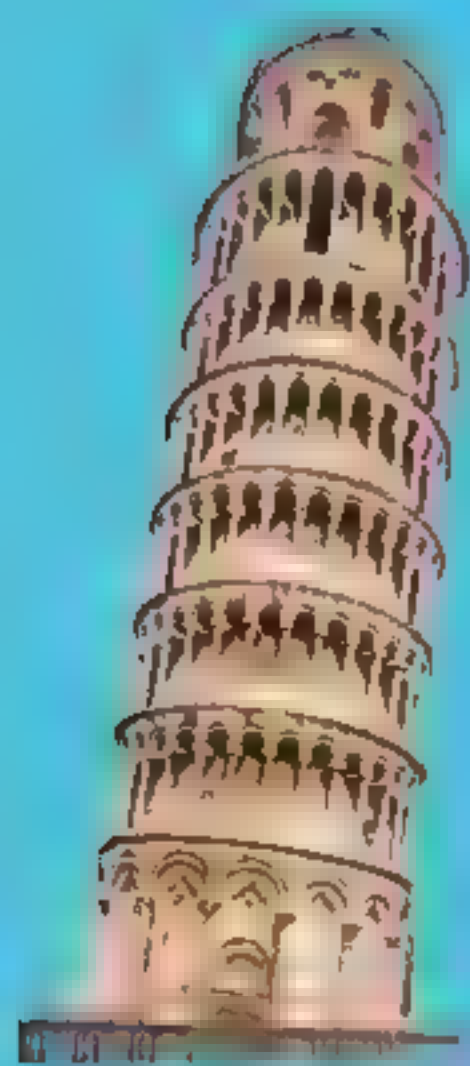


Gravity



Evolution

**Galileo Galilei** was a genius who invented a new **telescope** and showed that heavier items don't fall quicker than lighter ones.



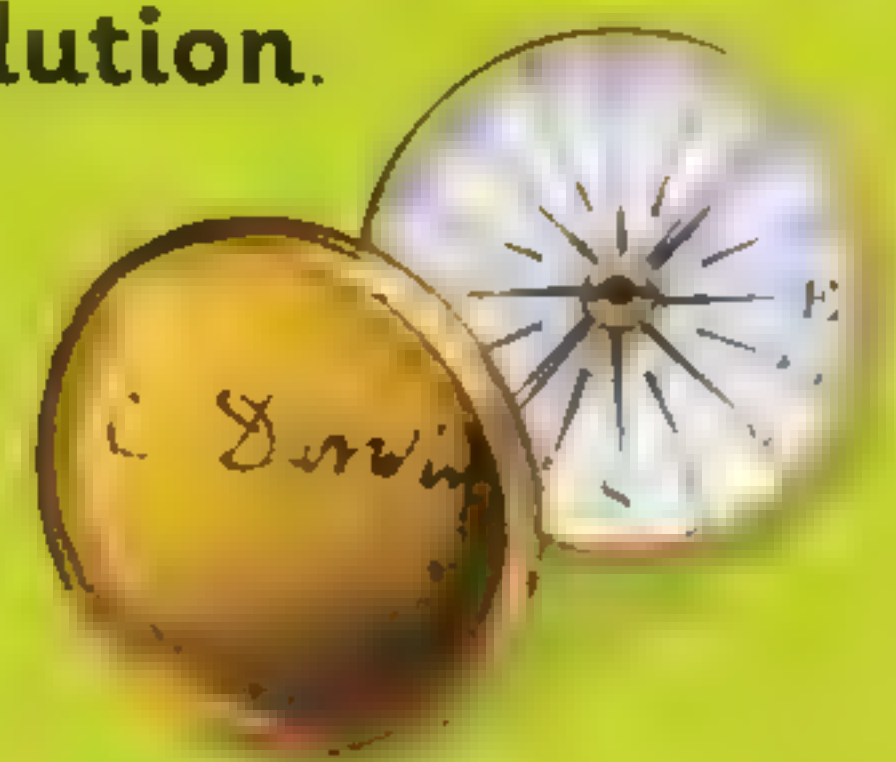
Galileo dropped items from the Leaning Tower of Pisa to prove his point!

After watching an apple fall from a tree, **Isaac Newton** decided to work out why things fall. (The answer? **Gravity**!)



Newton also built a new type of telescope.

By studying animals and fossils, **Charles Darwin** noticed that animal species slowly change over time. He came up with the theory of **evolution**.







Galileo found out a lot about the universe.

$$E = mc^2$$



Radiation



Space



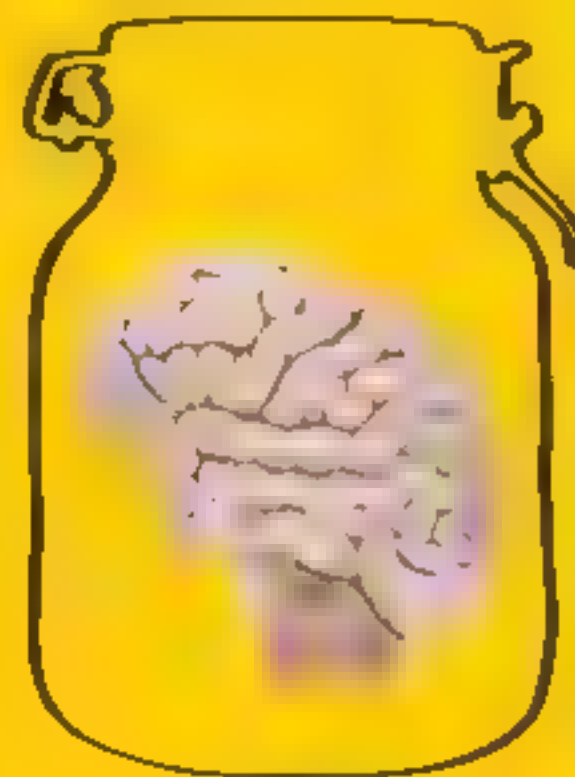
Animals

**Marie Curie** was a science whiz who experimented with **radioactivity**. She won the Nobel Prize, an award given to scientists, **TWICE!**



**Albert Einstein** explained that **space** and **time** are parts of the same thing (**space-time**). He also studied how fast light travels.

Einstein's brain was studied by scientists to see what made him so smart.



**Jane Goodall** studied **chimpanzees** in the wild for 50 years. She discovered that they have personalities and emotions—just like us!







# Travel by land

Have you ever noticed how many different vehicles there are on the road? There are tons!



## Cool cars

You can go far and fast in a car. Some people race fast cars for fun.



Car

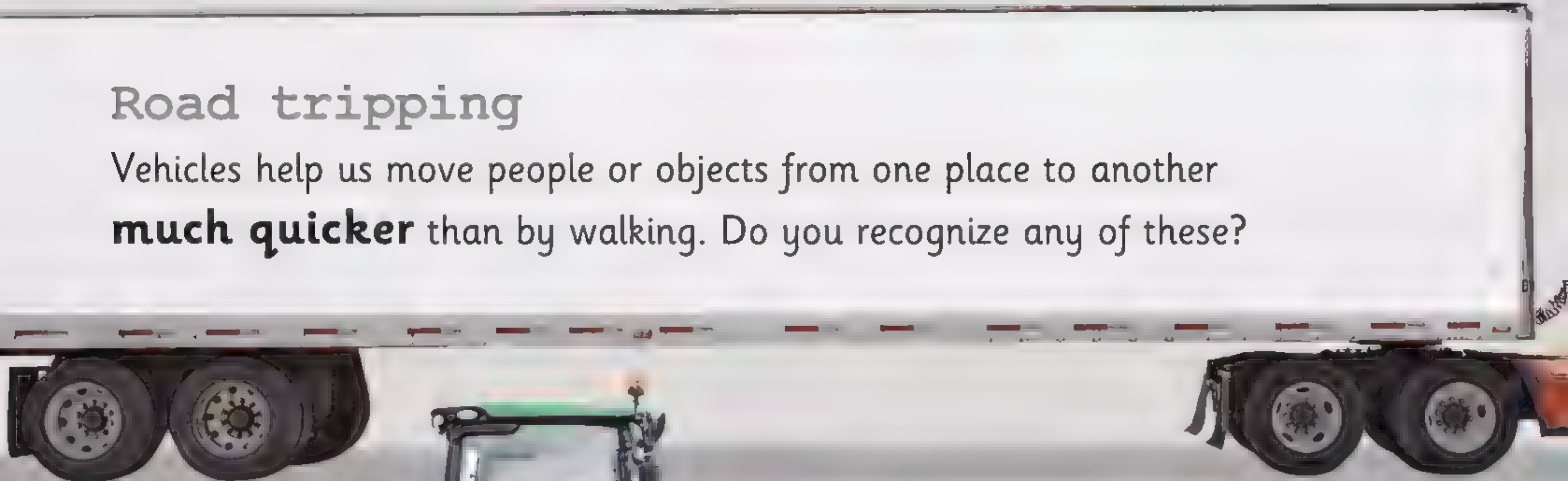


Bicycle



## Road tripping

Vehicles help us move people or objects from one place to another **much quicker** than by walking. Do you recognize any of these?



Farmers use tractors to help them on the farm.



Tractor



Motorcycle





Train

Trains travel quickly across the land.

The **Shanghai Maglev Train**

is the fastest in the world.

Blink and you'll miss it!



Camper

Truck

Taxi

Taxis take  
people where  
they want to go.



Big rig

Taxis in NEW YORK are yellow.



Dump truck



Fire engine

Emergency  
vehicles make  
loud noises to tell  
other drivers they  
are nearby.



To the sea





# Travel by water

Our world is full of water, from oceans and rivers, to canals and lakes. **Boats** allow us to move across them.



Cruise  
ship



## Ocean motion

Boats move across the water in different ways. Most boats are powered by engines, but others rely on the **wind**.



Fishing boat

Cruise ships are like water hotels. They're so huge they have restaurants, swimming pools, and even tennis courts!

## Speedboat

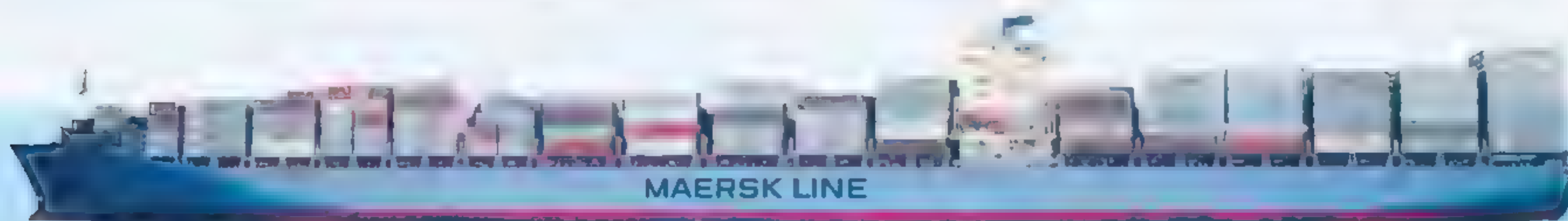


Rowing boat





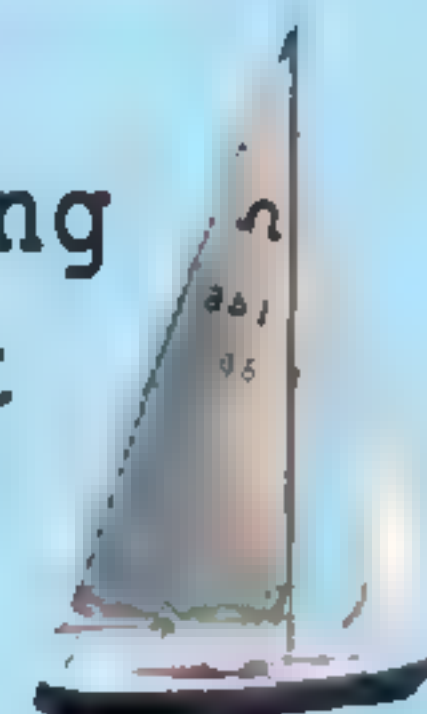
Container ships move **HEAVY** things across the sea.



### Container ship

Boats are better than planes for carrying heavy items, since they're bigger and stronger.

### Sailing boat



These boats move when strong winds blow their sails.

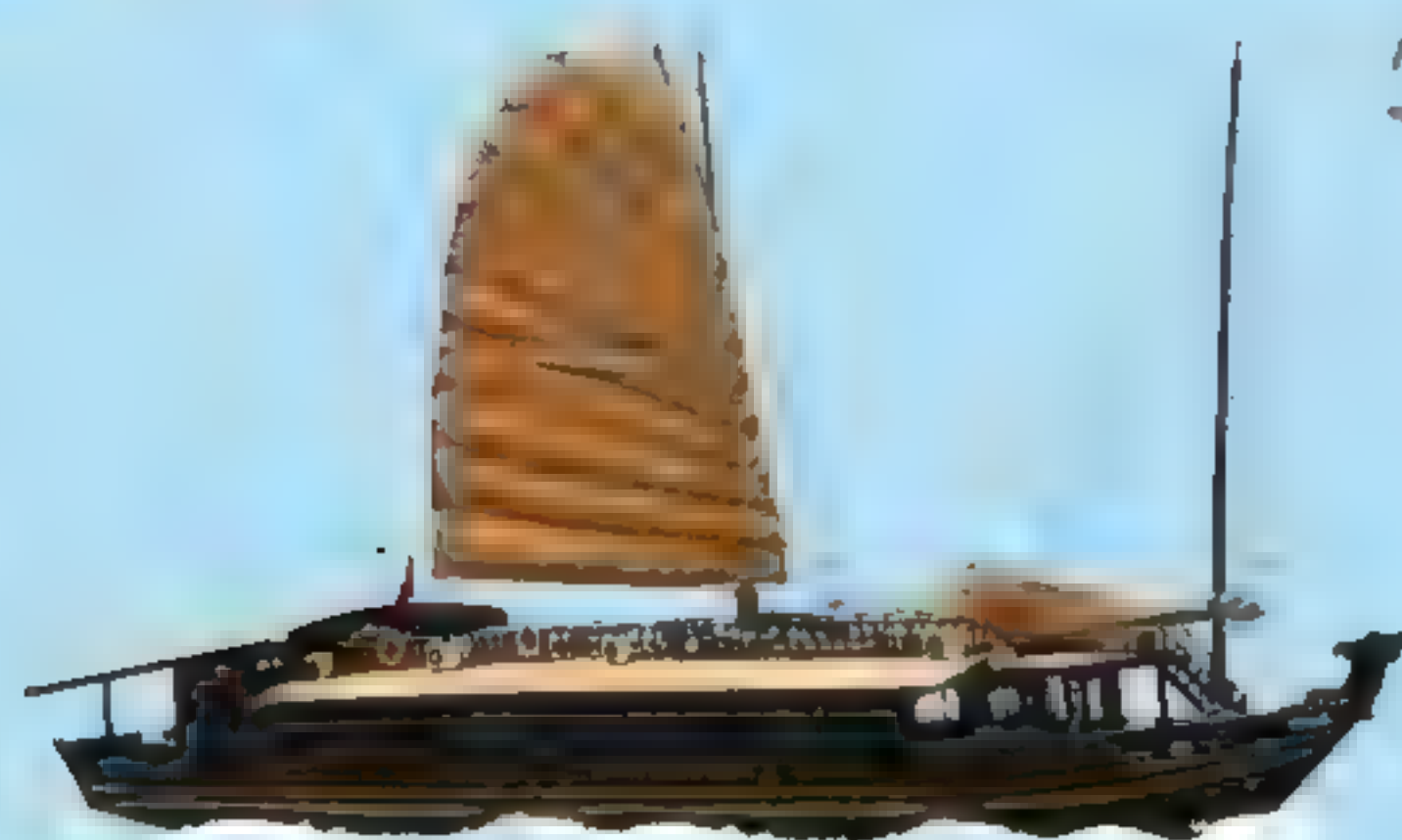
### Jet Ski



### Tug boat



Tiny tug boats are strong enough to tow much **BIGGER** ships.



### Junk boat

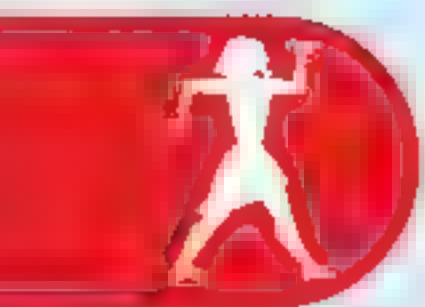
### Hovercraft



Hovercrafts have a big cushion that lets them travel on water or on land.

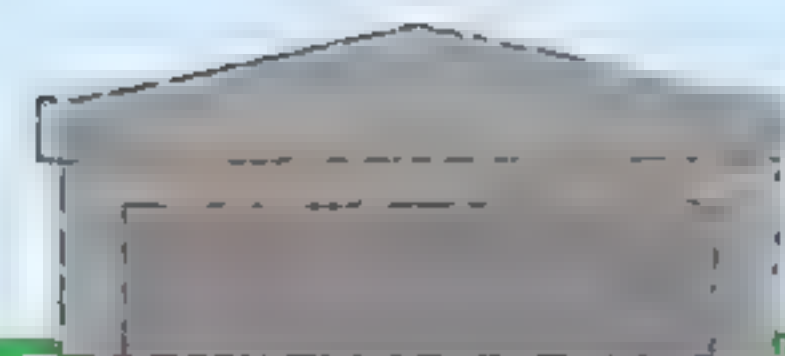






# Travel by air

Let's take a journey into the sky. Is that a big mechanical bird? No, it's a **plane**! Soaring high and moving fast, where's it off to today?



Glider

PH-308

Jumbo jet

Cockpit

ANA

Biplane

Biplanes are one of the oldest types of plane, but pilots still fly them today.

Landing wheels

Stairs

## Speedy travel

Airplanes are the fastest way to get across the world. Before planes, people had to rely on boats, which are much slower.

Propeller

Light aircraft

G-AYFC





## Smart pilots

People who fly aircraft are called pilots. It takes a lot of practice and skill to do!



These planes fight each other in the sky.

Fighter jet

Fighter jets fly so quickly they can travel faster than sound!





# Totally tall towers

Modern buildings reach up so high in the sky it looks like they go up forever. It's no wonder we call them **skyscrapers**!



**Eiffel Tower**

984 ft  
(300 m)



**Shard**

1,017 ft  
(310 m)



**Empire State Building**

1,453 ft (443 m)



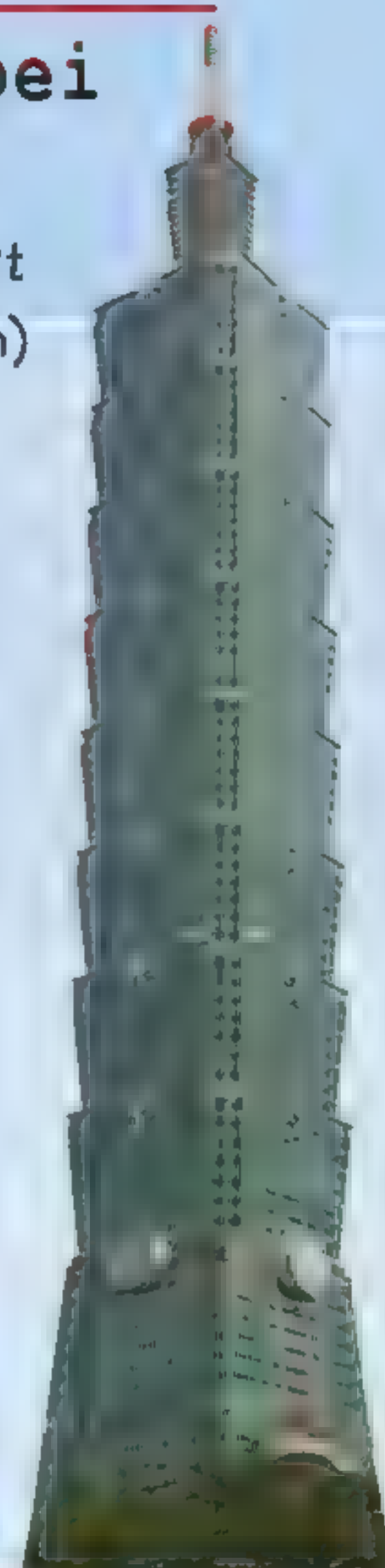
**Petronas Towers**

1,483 ft  
(452 m)



**Taipei**

101  
1,670 ft  
(509 m)



How do  
I get down  
from here?

## Amazing places

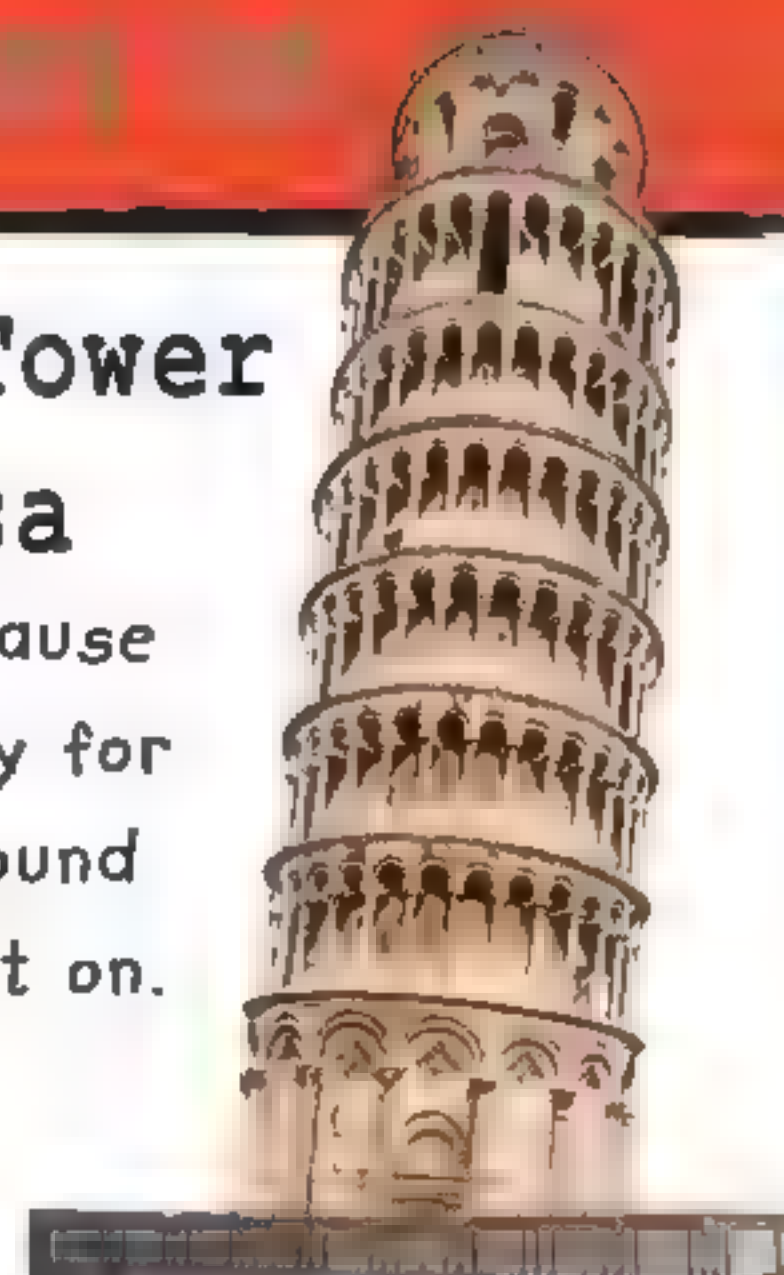
Buildings don't have to be tall to be well-known. Here are some other famous buildings from around the world.

## Angkor Wat



## Leaning Tower of Pisa

It leans because it's too heavy for the soft ground that it's built on.

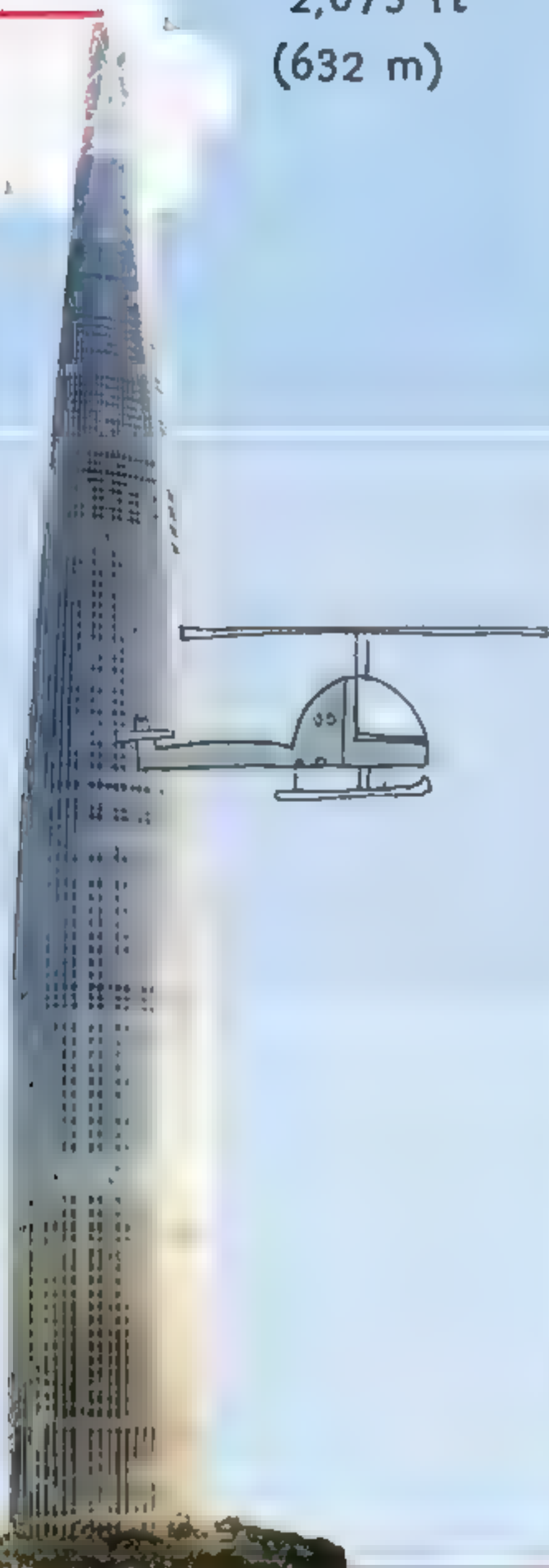




## Brilliant builders

The people who design buildings are known as **architects**.  
It's a job that takes lots of hard work and planning.

**Lotte  
World  
Tower**  
1,821 ft  
(555 m)



**Shanghai  
Tower**  
2,073 ft  
(632 m)



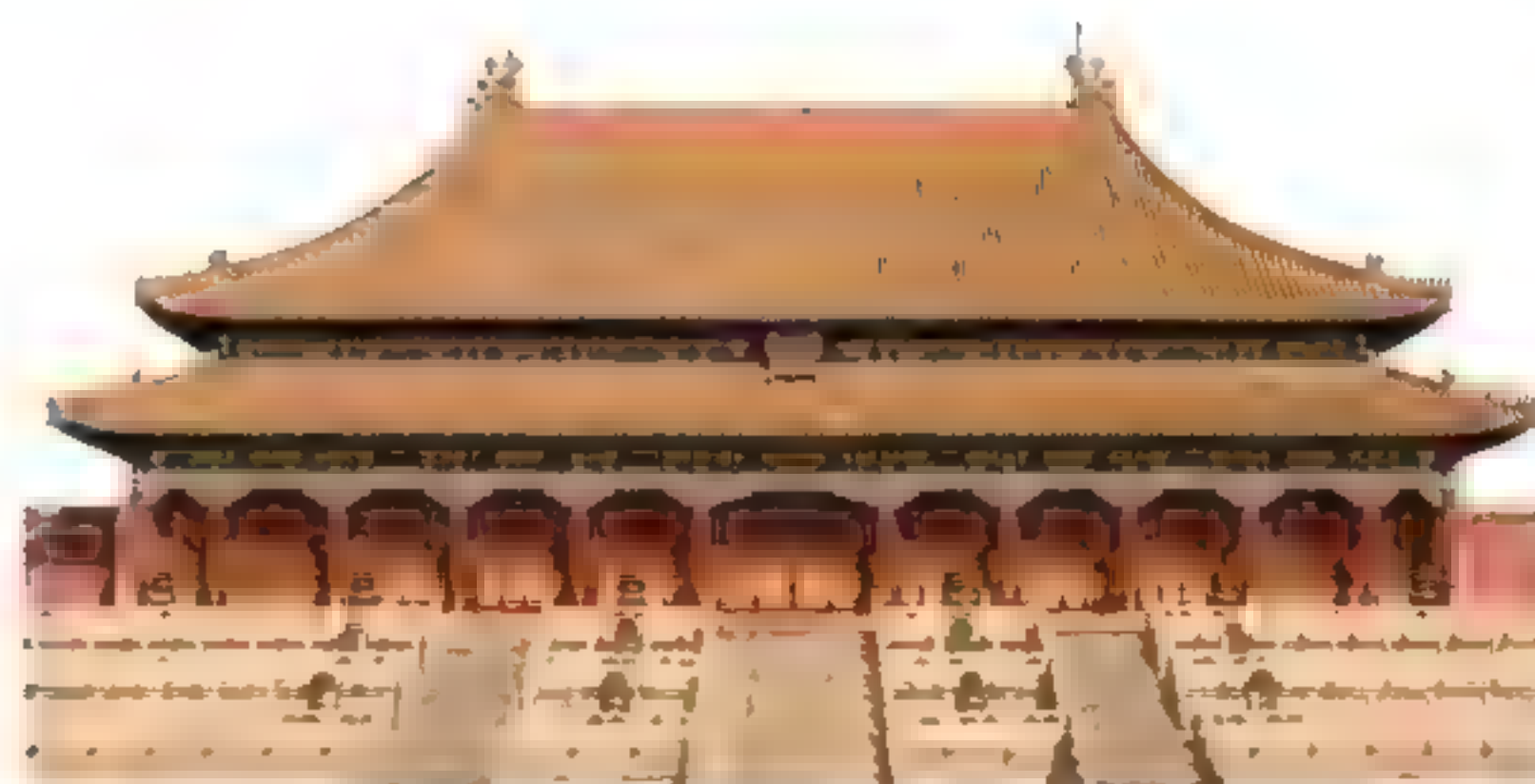
**Tokyo  
Skytree**  
2,080 ft  
(634 m)



The Burj  
Khalifa has  
been the  
world's tallest  
building since  
it opened  
in 2010.



**Taj Mahal**  
This beautiful  
palace in India is  
the tomb of an  
emperor's wife.



**The Forbidden City**

Emperors of  
China lived in  
this palace  
for hundreds  
of years.





# I want to be an astronaut!

Do you think you've got what it takes to be a space explorer? Hold onto your seat! 3...2...1... **LIFT OFF!**



Animals were sent to space before people.

Astronauts are strapped in when they sleep so they don't float away!



Even busy astronauts get free time to enjoy themselves.

Being an astronaut is **hard!**  
Life in space is different to life on Earth in lots of ways. Such as:

Food is specially prepared by scientists on Earth so that it lasts a long time.

Toilets are different to ones on Earth. They work a little like a vacuum cleaner!

There's no "day" or "night" in space, so astronauts have to keep to a strict sleep routine.

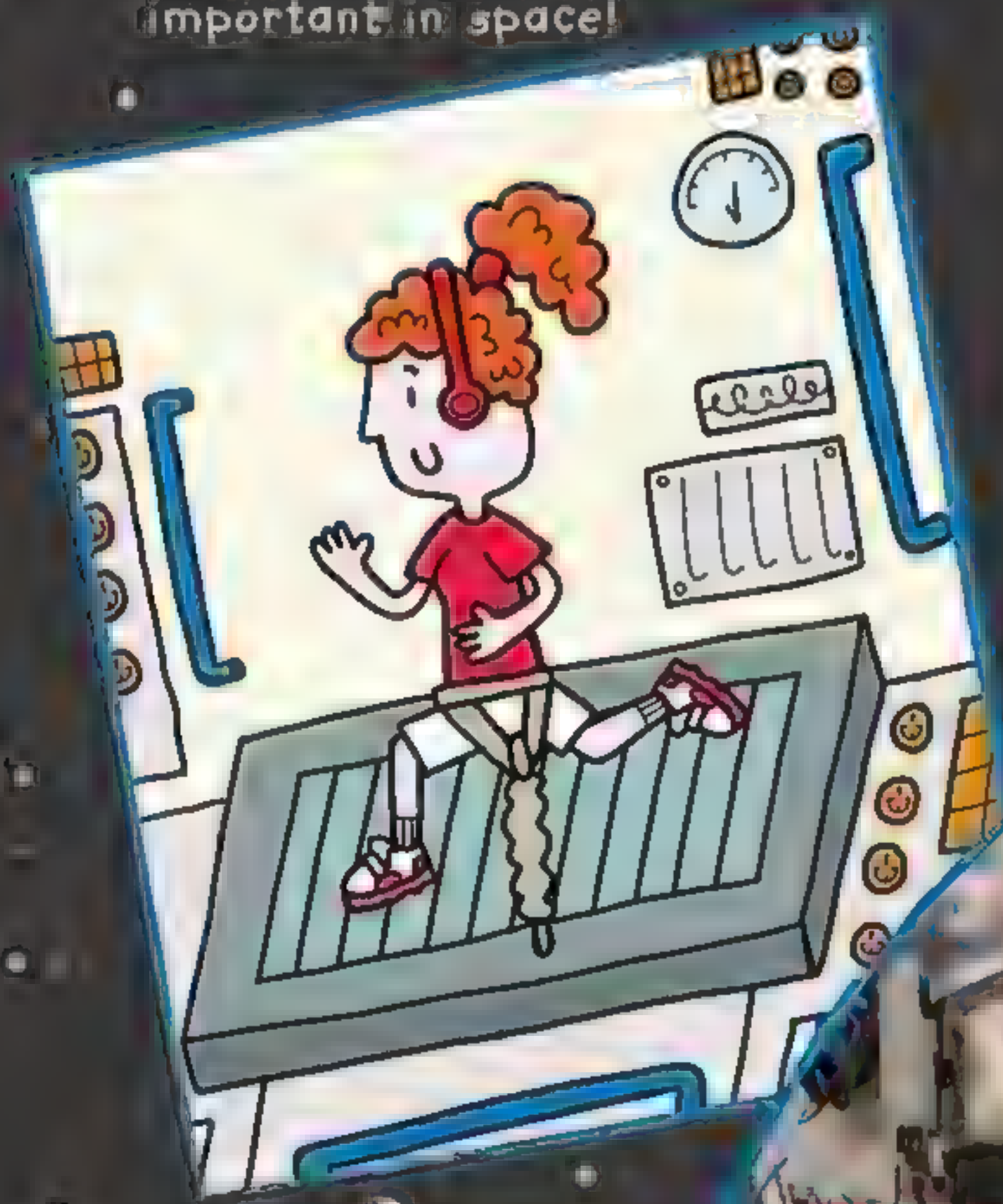




EVA suit

Astronauts wear special suits on spacewalks. The suits give them oxygen to breathe and protect them from the cold.

Exercise is very important in space!



## Floating around

In space the **gravity** (the force that keeps things on the ground) isn't as strong. Astronauts have to get used to things floating around.

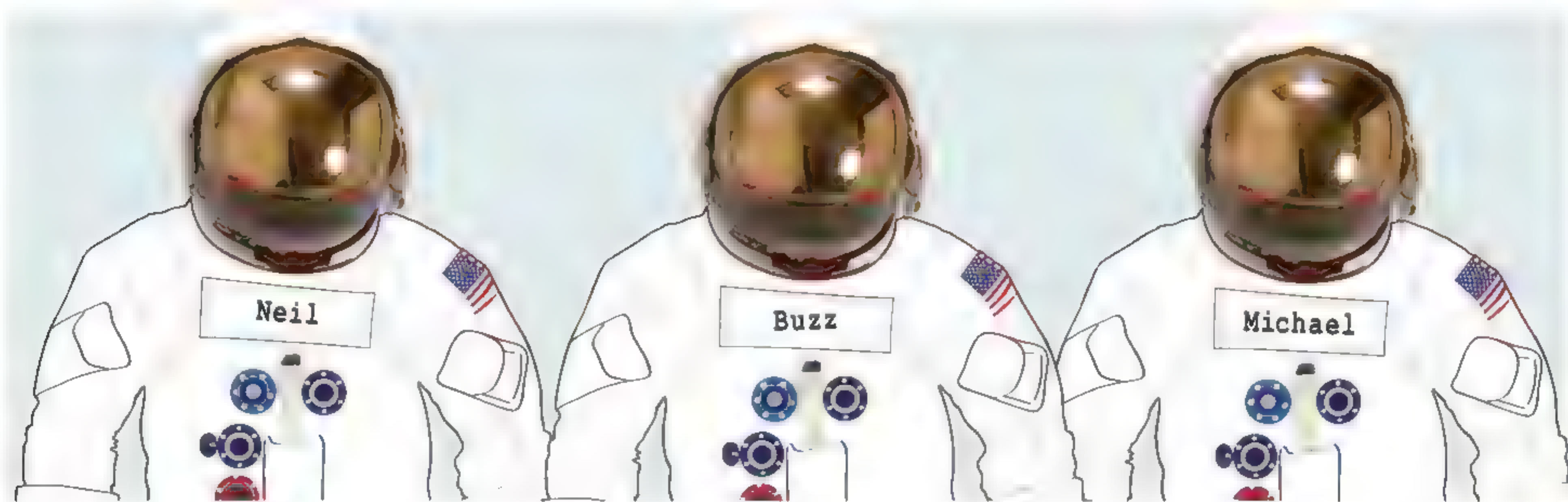






# Flying to the moon

In the year 1969—while the whole planet was watching—three brave astronauts became the first people to **travel to the moon**. This important mission was called **Apollo 11**.

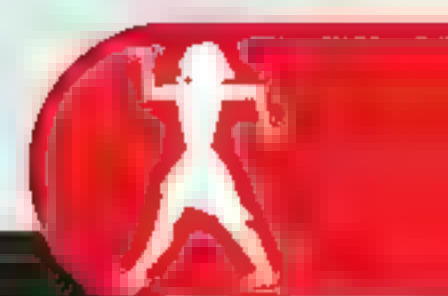


Three American men named Neil Armstrong, Buzz Aldrin and Michael Collins were the lucky ones to be picked for the mission.

The scientists at NASA worked very hard to make sure the launch went smoothly and **safely**.

The rocket blasted off from a place called Cape Kennedy, Florida in July 1969.





The rocket traveled through space to get to the moon. During this time the astronauts did experiments and **sent messages** to the scientists on Earth.

"That's  
**ONE SMALL STEP**  
for man; **one GIANT**  
**LEAP** for mankind."



Finally they reached the moon! They landed on the surface in a small vehicle called "The Eagle." Armstrong climbed down a ladder and walked on the surface.

Meanwhile... More than 500 MILLION people across the world watched the moon landing on their televisions.



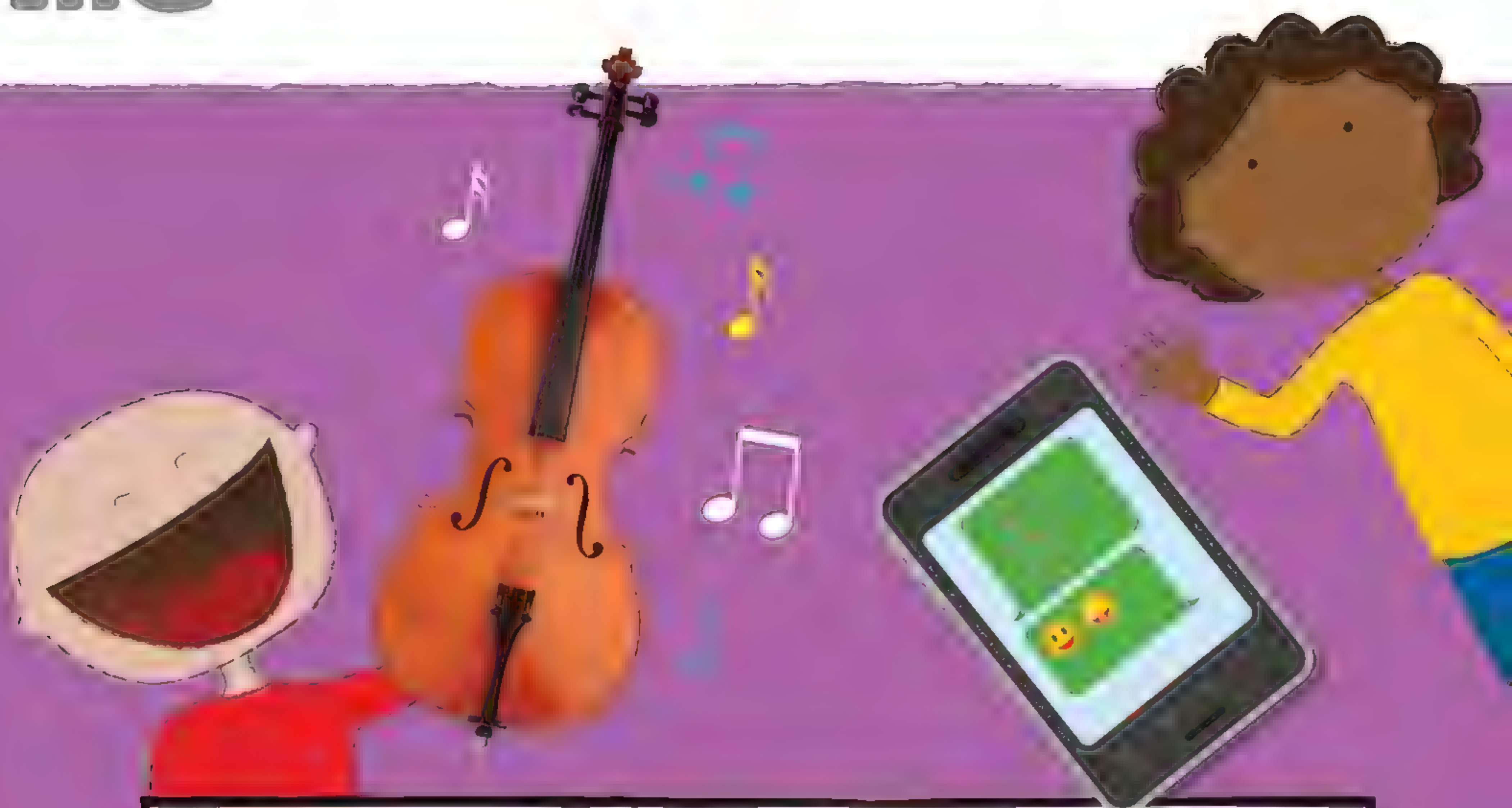


Very important things about





me



Right now, you're using **more** than your eyes to read this book. Your brain is working hard to help you see these words and get them to make sense. Your body is an amazing **machine**, and this section is all about **YOU** and the important things in your life.







# The human body

Your body is an amazing machine! Inside it are lots of parts that all work together.

## Skeleton

Your skeleton is made up of lots of **bones**. It's what keeps your body's shape.

## Organs

All your organs have a **special job** to keep your body going.

Brain

Liver

Bladder

Heart

Lungs

Stomach

Kidneys

Intestines

Your lungs help you breathe.

Skull

Your skull protects your brain.

Spine

Elbow

Rib cage

Your rib cage helps protect some of your organs.

Knee

Organs

Skeleton





## Muscles

Your muscles let you **move**.  
You need them to run, jump,  
smile, lift objects, and more!



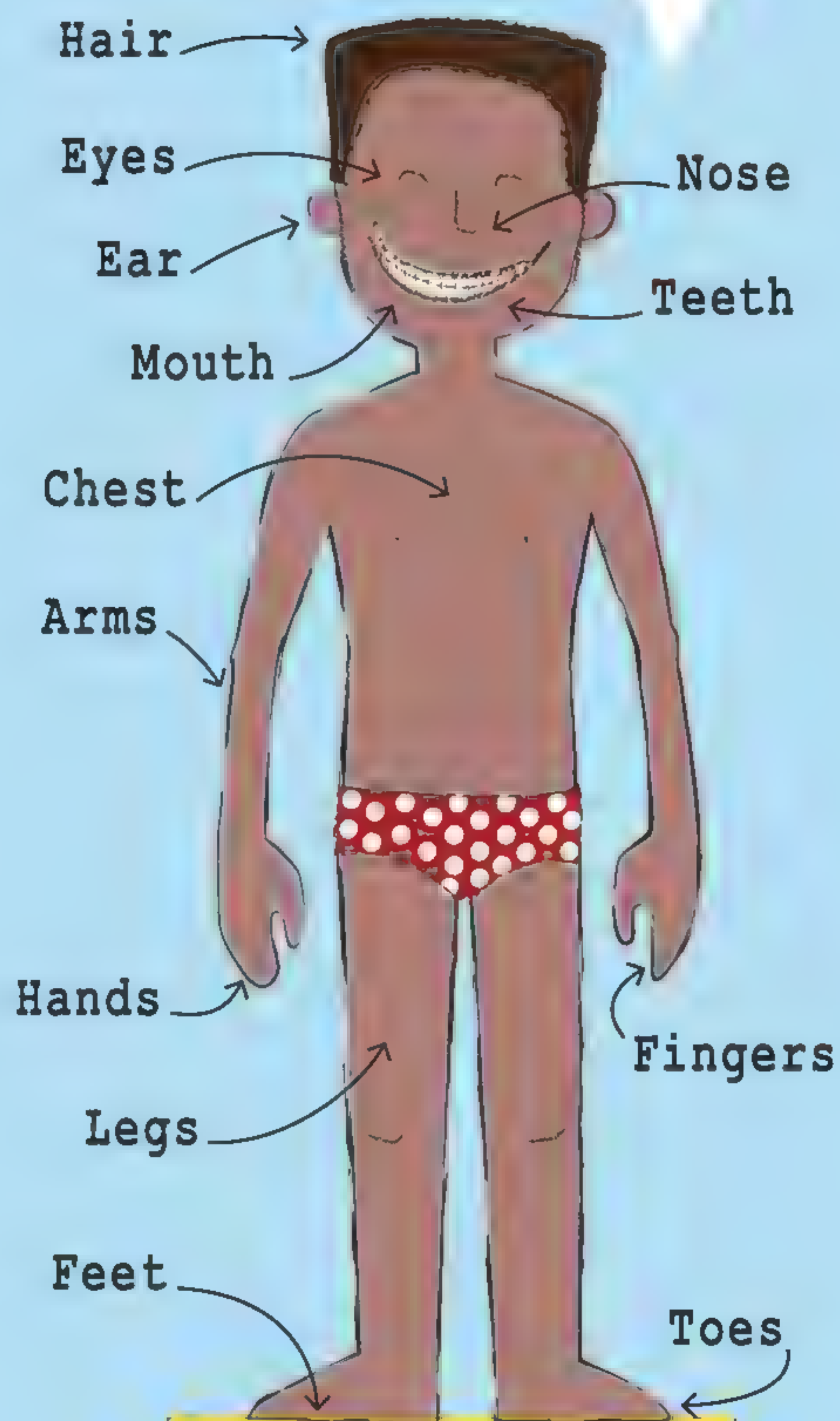
## Muscles

You control  
some muscles,  
but others work  
on their own.

Muscles

## Skin

Your skin wraps around your  
body to keep it **safe**. It's also  
your body's biggest organ.



Body





# My blood

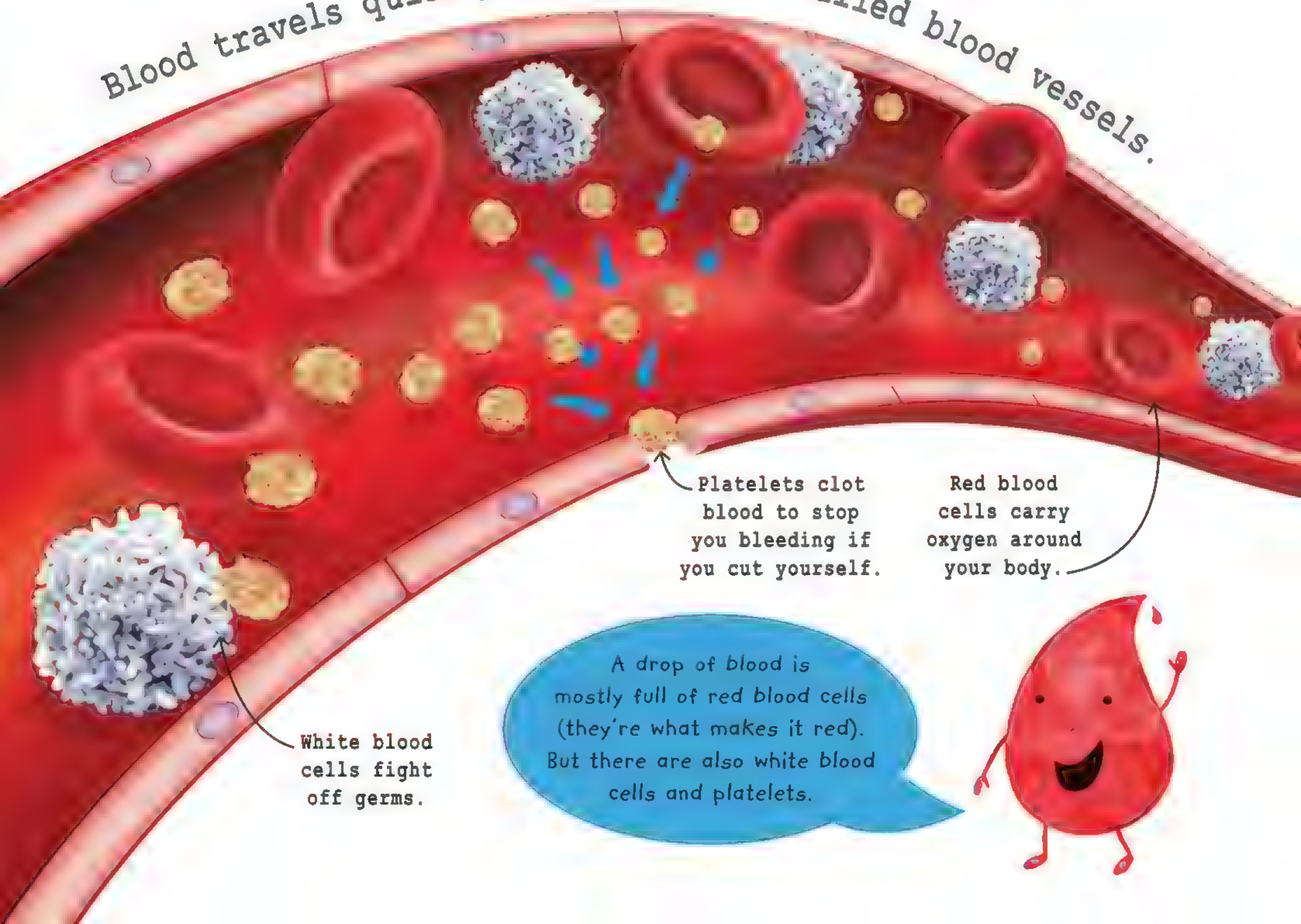
Everybody needs oxygen to live.  
You get oxygen when you breathe,  
and your blood **takes it**  
around your body.

What is  
blood?

Blood is a mixture of a liquid  
called plasma and lots and lots  
of teeny tiny things called "cells."



Blood travels quickly through tubes called blood vessels.

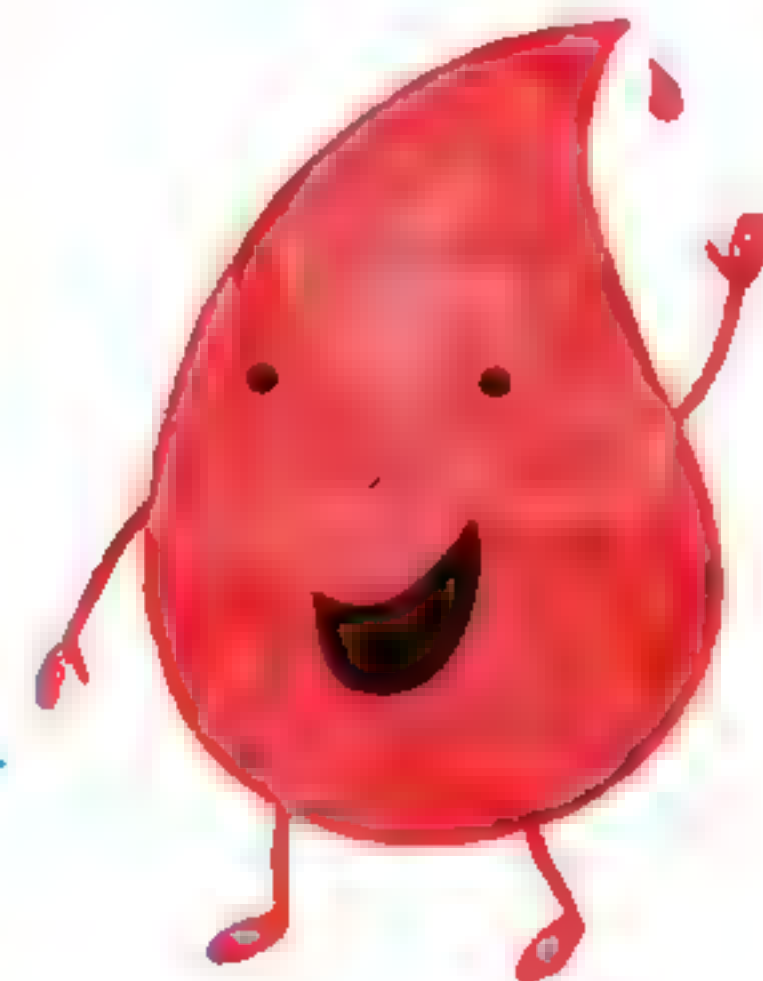


Platelets clot  
blood to stop  
you bleeding if  
you cut yourself.

Red blood  
cells carry  
oxygen around  
your body.

White blood  
cells fight  
off germs.

A drop of blood is  
mostly full of red blood cells  
(they're what makes it red).  
But there are also white blood  
cells and platelets.





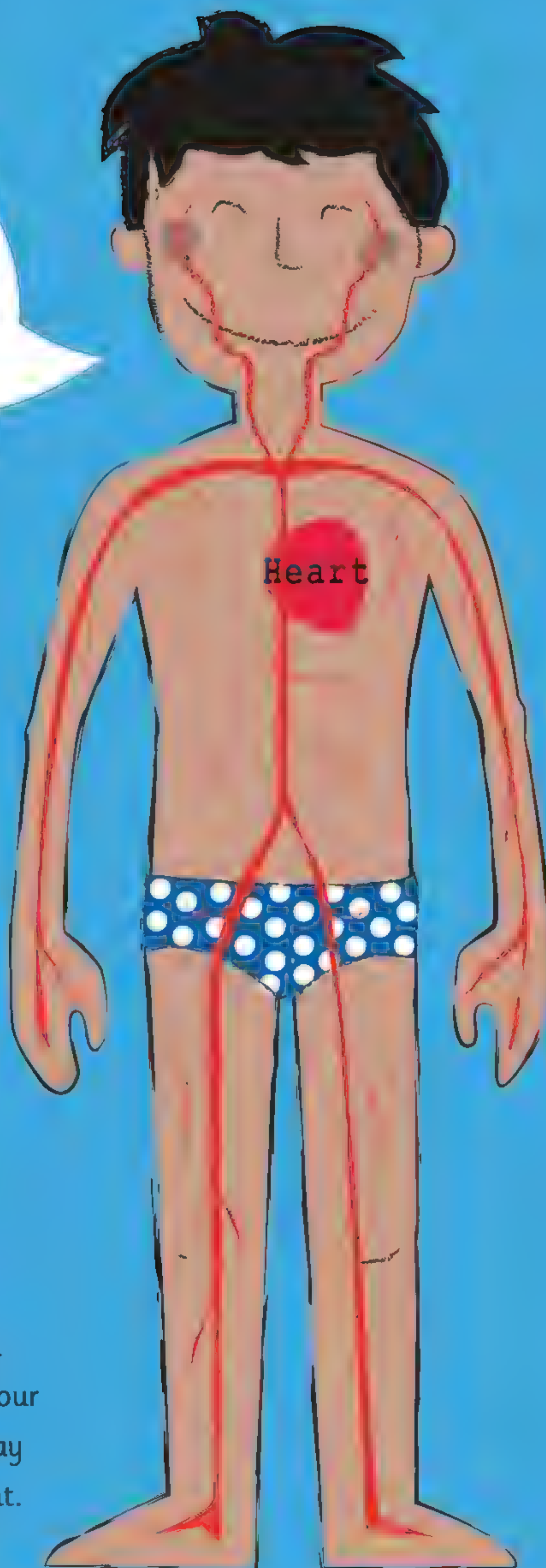


Your **HEART** pumps  
blood around your  
body. Up to the top  
of your **HEAD**, and  
down to the tips  
of your **TOES**.

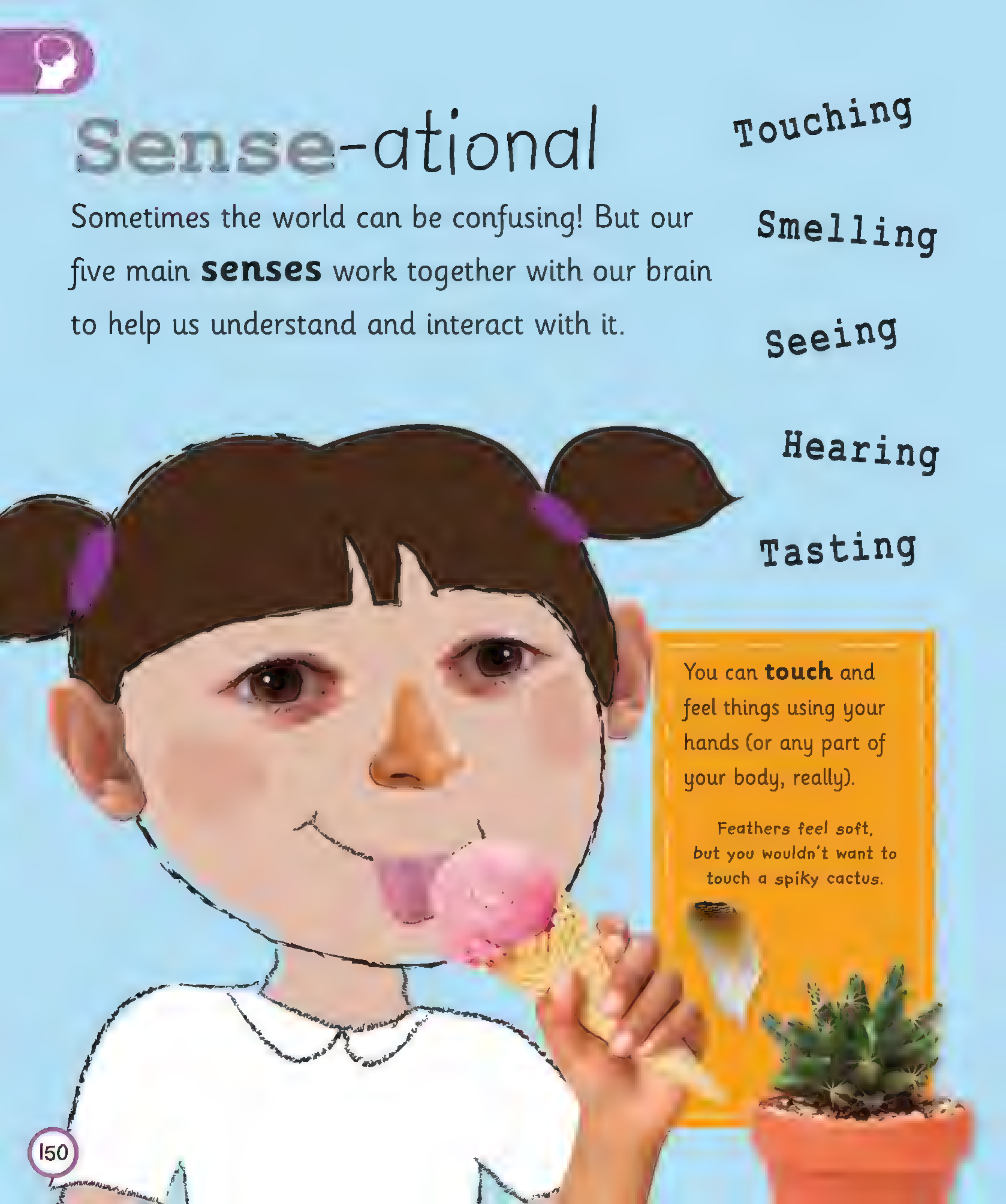
A blood cell travels around  
the body in 60 seconds!



As well as delivering oxygen and  
other important things around your  
body, blood also helps take away  
waste that the body doesn't want.







# Sense-ational

Sometimes the world can be confusing! But our five main **senses** work together with our brain to help us understand and interact with it.

Touching

Smelling

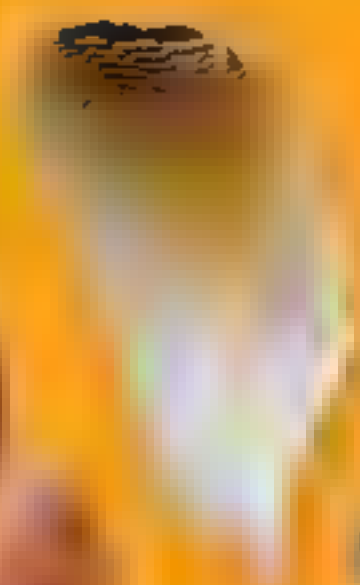
Seeing

Hearing

Tasting

You can **touch** and feel things using your hands (or any part of your body, really).

Feathers feel soft, but you wouldn't want to touch a spiky cactus.

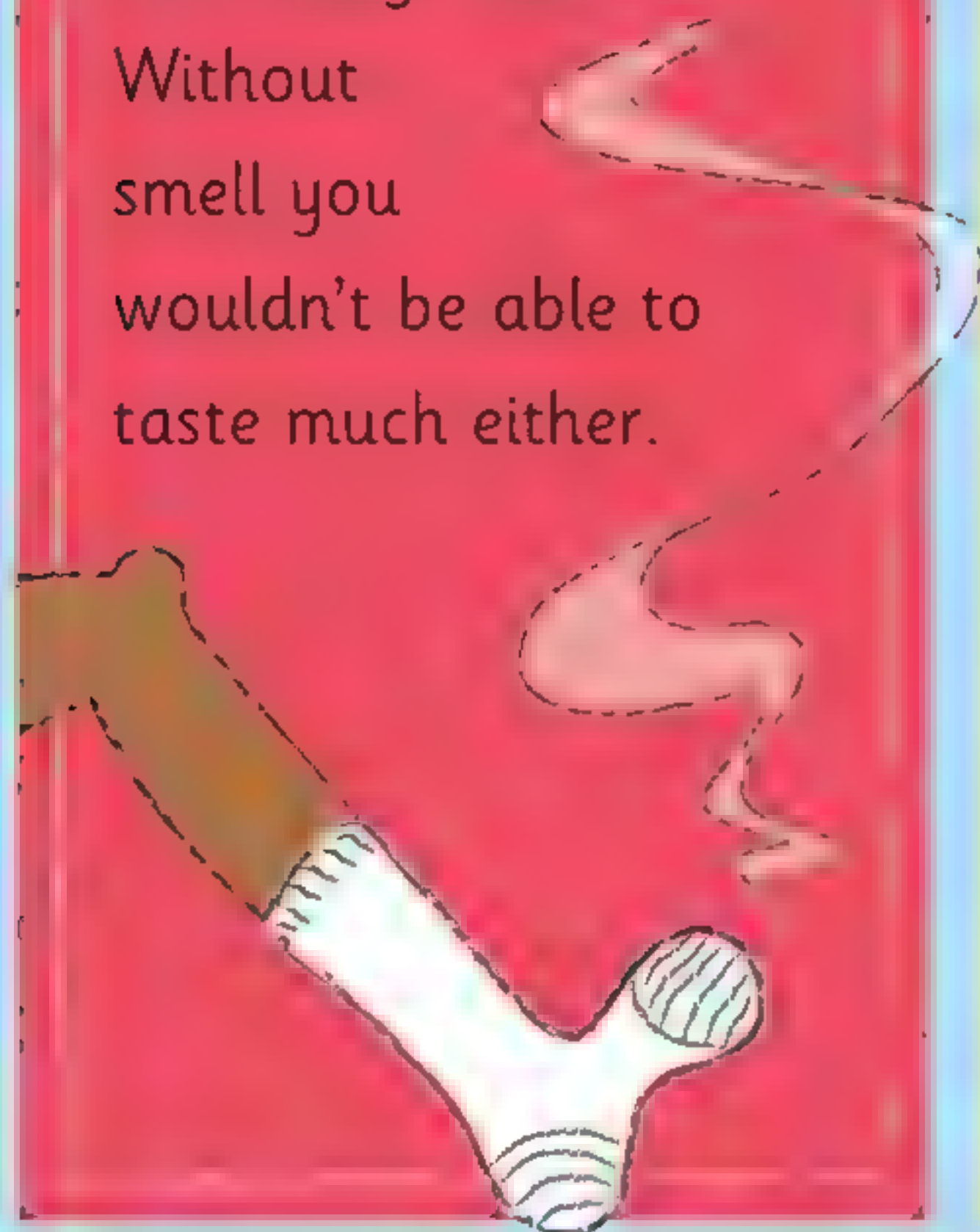




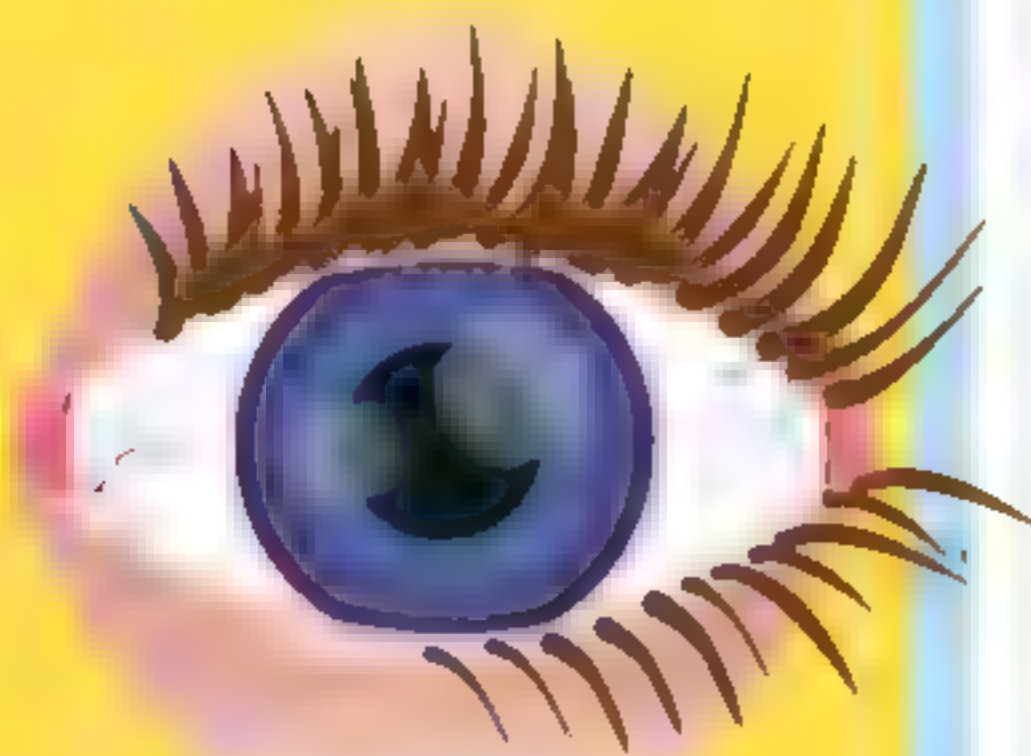


Your nose picks up **smells** (both nice and nasty ones!)

Without smell you wouldn't be able to taste much either.



Both of your eyes work together to help you to **see** the world in front of you and find your way around.



Experts say the feelings we get when we're hungry, thirsty, or itchy, may be **other senses**.

Here are a few more:



It's not nice to feel pain, but it's your body's way of letting you know that something is wrong.



Our sense of balance keeps us upright and stops us falling down.

Have you noticed you can feel if something is hot or cold without touching it?



Shh! Your ears let you **hear** noises. They never stop listening, even when you sleep!



The smallest bone in your body is found in your ear.



The tongue has teeny tiny taste buds that let us **taste** the flavors in our food.







Your brain  
uses more **ENERGY**  
than any other  
body part.

### Sharing work

Because the brain has **SO**  
much to do, the different  
parts all work together,  
even when you are asleep.





Thinking

# My brain

Hidden inside your head, your brain is working **all the time**. You couldn't do any of these things without a brain.

Feeling emotions

Breathing

Reading

Moving

Remembering

Learning

The brain **LEADS** the body, telling all other body parts (like your eyes and ears) what to do.

Talking

Playing

Touching





# Sleep time

When you close your eyes and need to **rest**, sleep is just the very **best**!

How much sleep do we need?

Although they sleep  
A LOT, babies wake  
up between naps.



**Babies**  
Most of the time!

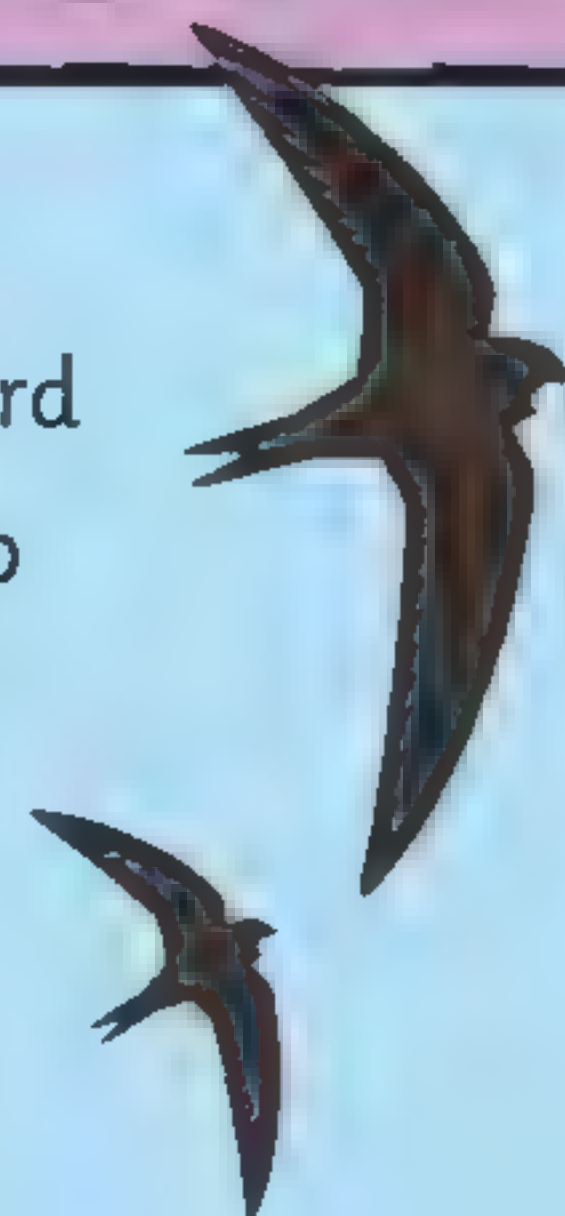
## Sleepy animals

It's not just people that love to snooze. In fact, many animals have unusual or surprising sleeping habits.

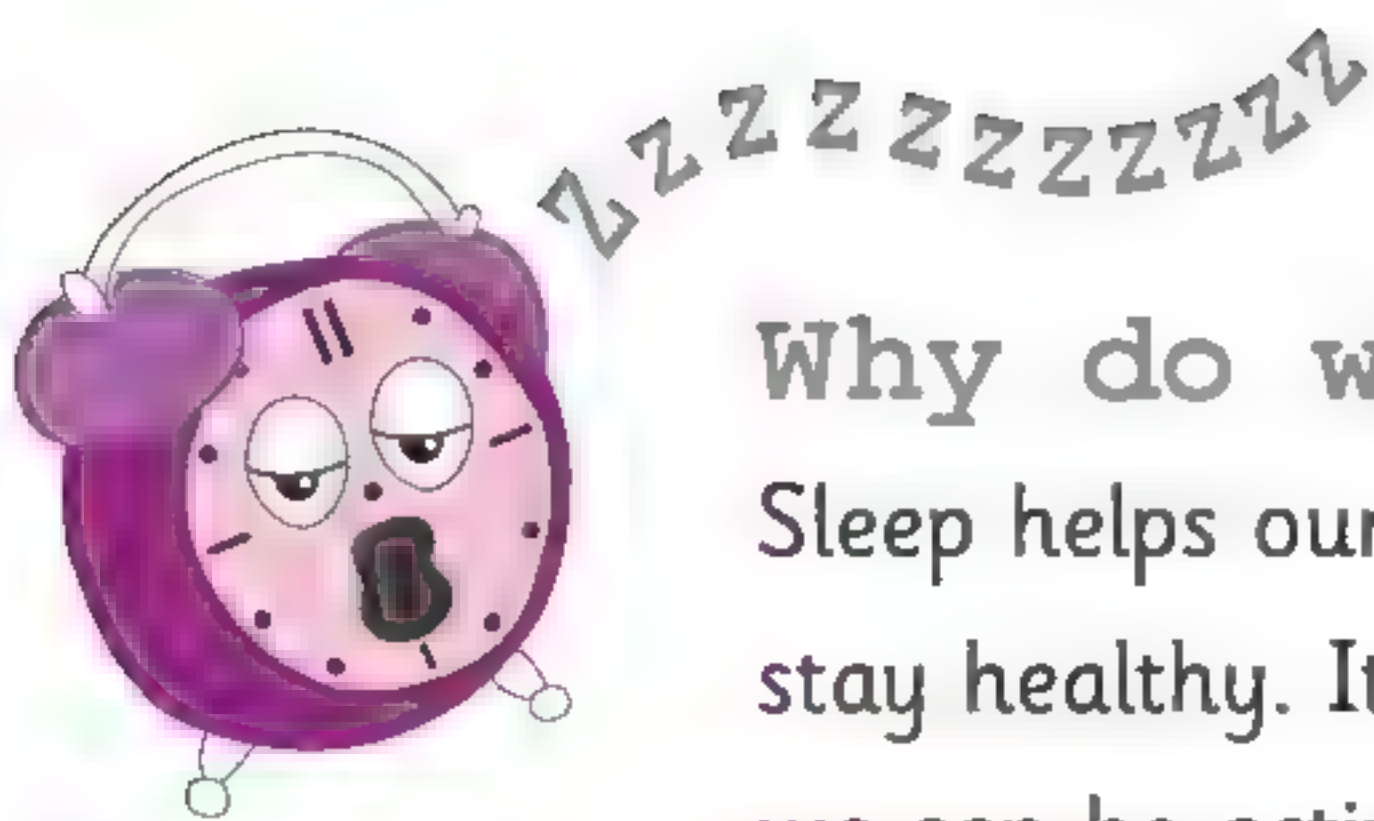
Some mammals, such as **hedgehogs**, hibernate. This means they sleep all through winter.



The **swift** is a very fast bird that can sleep while it flies!







## Why do we need sleep?

Sleep helps our body heal, grow, and stay healthy. It also gives us energy so we can be active throughout the day.

Rest and a good bedtime routine is important for a growing child.



**Children**  
10-12 hours

Teenagers need lots of energy to grow into their adult bodies.



**Teenagers**  
8-10 hours

The older you get, the less sleep you will need.

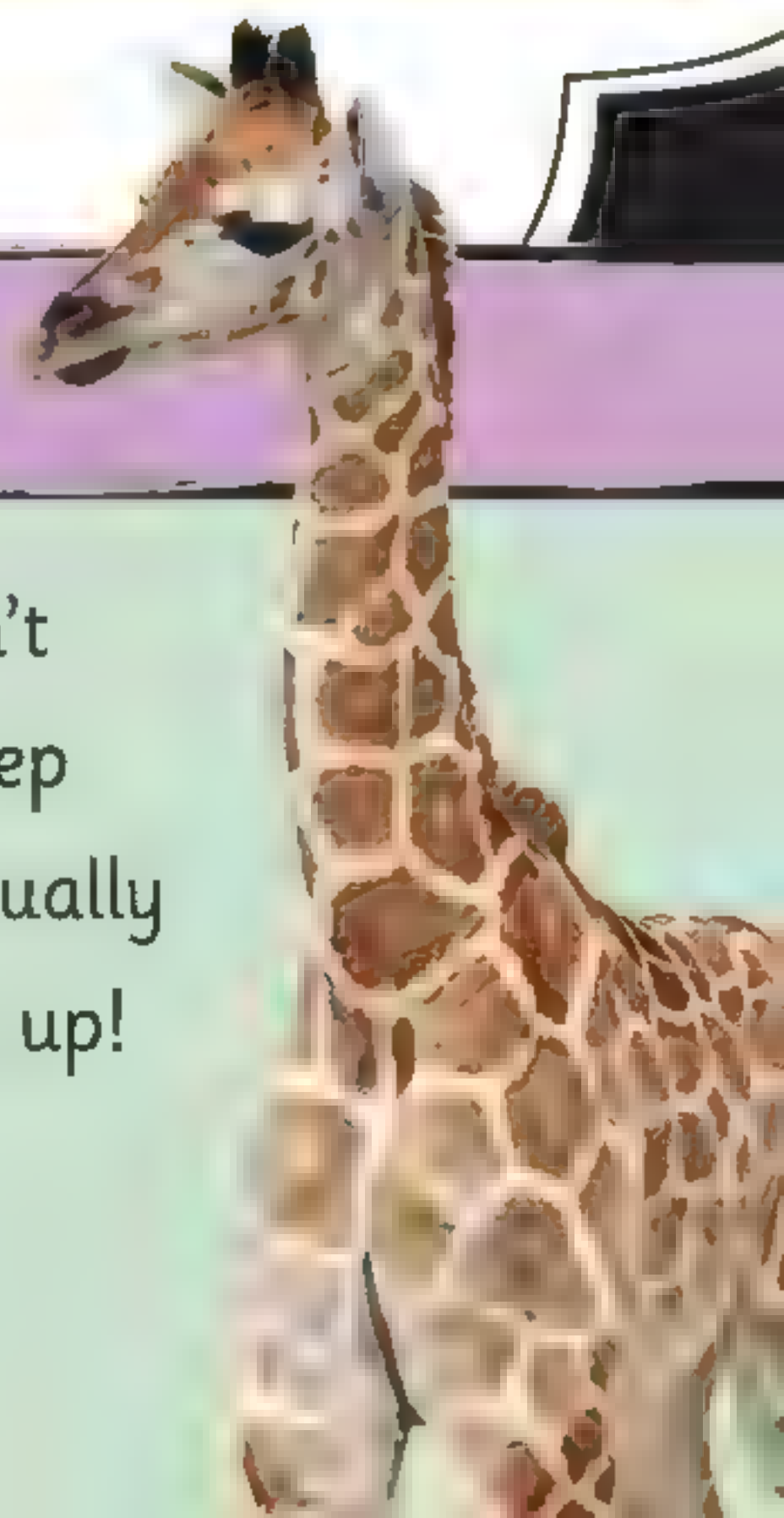


**Adults**  
6-8 hours

Cute **koalas** love to slumber. They sleep around 18 hours a day.



**Giraffes** don't need much sleep at all. They usually sleep standing up!





# Good food

Food makes us feel full, happy, and healthy (if we eat the good stuff!)  
Let's chew, munch, and chomp.



Pineapple is very sweet and juicy.

Pineapple

## Fruit

The super cool **heroes** of the food world, fruits are packed with all the goodies that help keep you healthy.



Peas

## Vegetables

Always try to **eat your greens** (and other colored veggies). They make your meals tastier and healthier.



Pasta

There are lots of shapes of pasta



## Carbs

Pasta, rice, potatoes, and bread are all foods that give you lots of **energy** to run around and play.

"Carbs" is short for "carbohydrates."

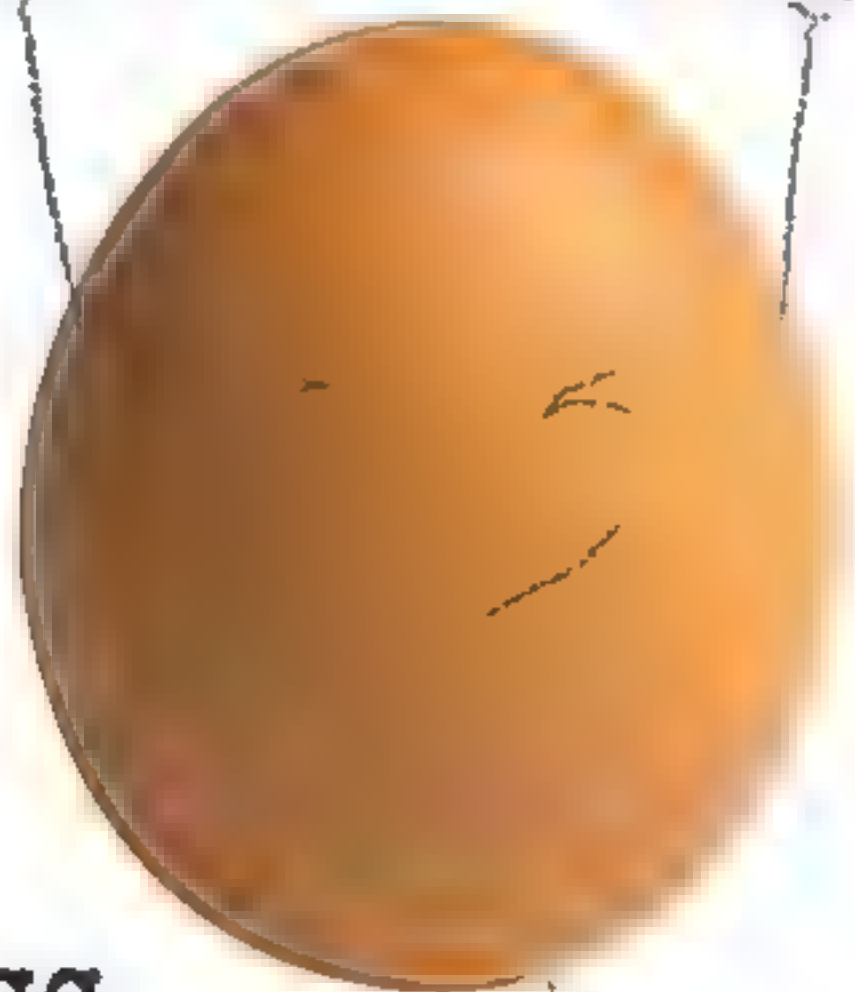
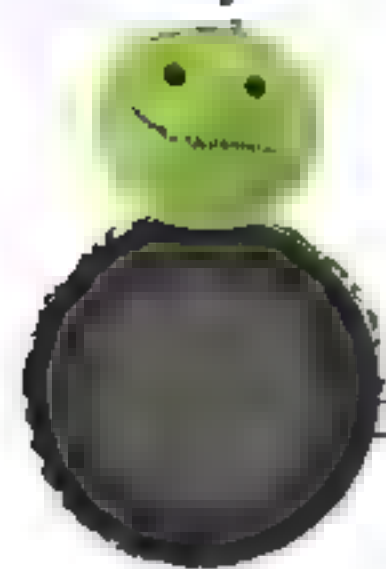




INSECTS are eaten by a BILLION people across the world.



Eggs help to make your muscles strong.



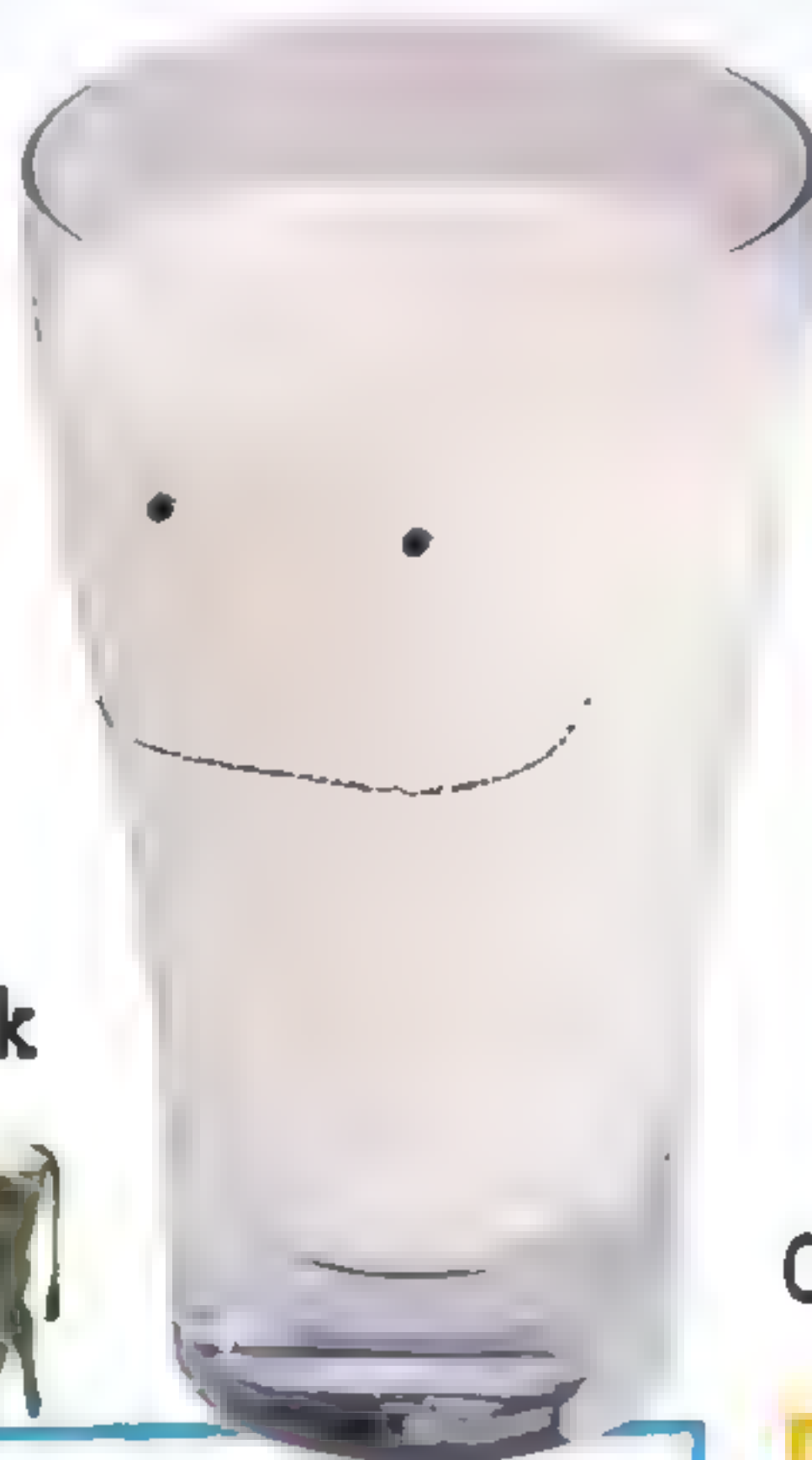
Egg

## Protein

Foods high in protein, such as beans, nuts, and meat help your body **repair** itself and help you grow.



Milk

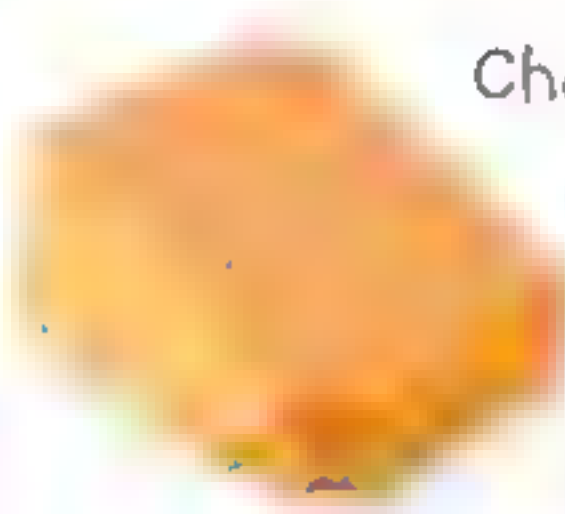


Milk contains something called calcium that's really good for you.

## Dairy

A great way to keep your teeth and bones healthy is by eating dairy—foods that are made from **milk**.

Cheese, butter, and yogurt are made from milk.



Cupcake



## Sweets

Eating too many fatty or sugary foods can be unhealthy. But there's nothing wrong with an occasional **treat**!







# Let's communicate

Telling other people what you think and how you feel is important, so it's a good thing there are lots of different ways to do this.



A wave can mean hello or goodbye.

We all speak and think in a language (there are more than 6,000 in the world!). Some people can speak lots of different languages.

Talking is one of the main ways that people can communicate with each other.



You don't always need words. People can often work out how you feel by the look on your face.



You can sometimes tell how a person is feeling by the way they act or their body language.



Some people talk by making signs with their hands. This helps if you can't hear well.





## Wonderful writing

Reading and writing is another way to communicate. Languages can be written in different alphabets or scripts, so they don't always look the same.

All these words mean "HELLO."

Hello

English

नमस्ते

Hindi

السلام عليكم

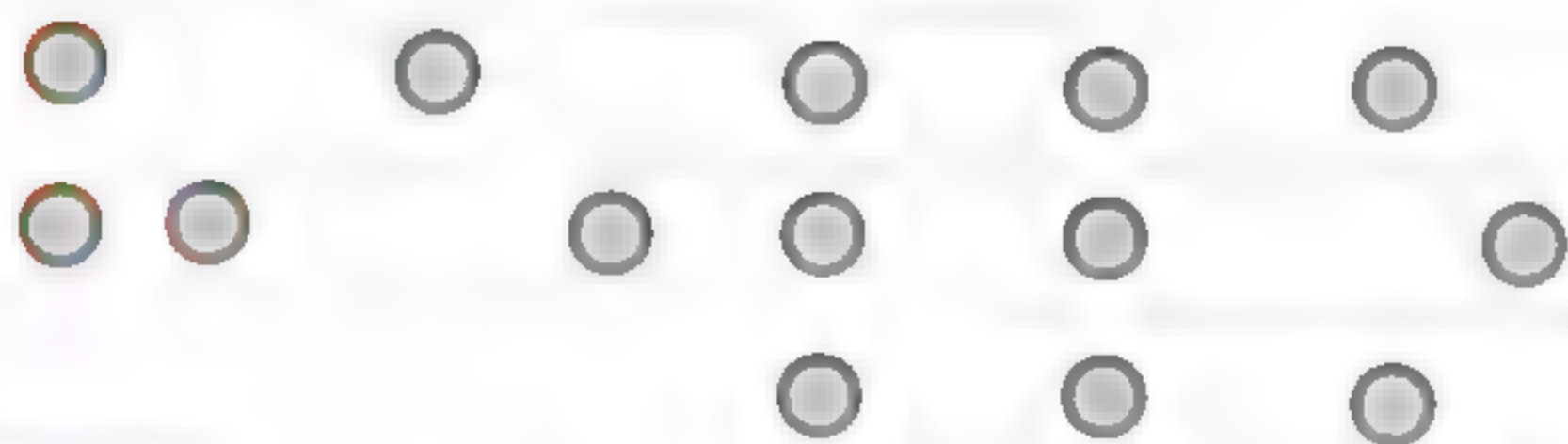
Urdu

你好

Mandarin

## Brilliant braille

Braille is a written language that uses raised dots for letters. It helps people who can't see well to read with their fingers, not their eyes.



Hello in braille



## Emoji!

In digital messages, we can show how we feel with icons and pictures as well as words.





# Marvelous music

There are lots of different types and styles of **music**, and almost as many ways for us to **enjoy** it!

There are lots of musical instruments to play, but it takes **time** and **practice** to become very good.

Your **voice** and **mouth** are amazing instruments. You can use them to sing, hum, and whistle!

Music is often written down so you know what note to play next.



Singing



Playing





## Interesting instruments

The triangle is simple to learn but hard to master!



The pipa has been played in China for more than 2,000 years.

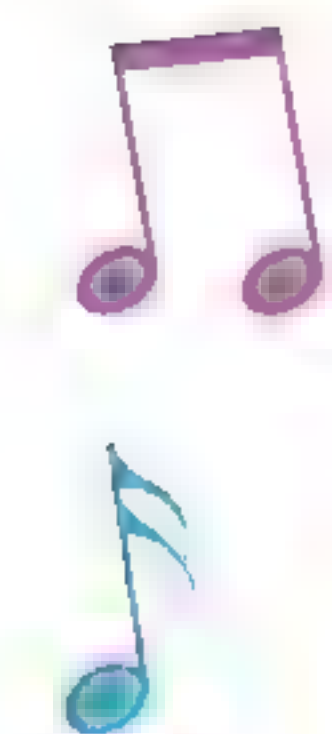
Bagpipes are played in Scotland. They are very LOUD!



Although they are huge, harps make a soft sound.

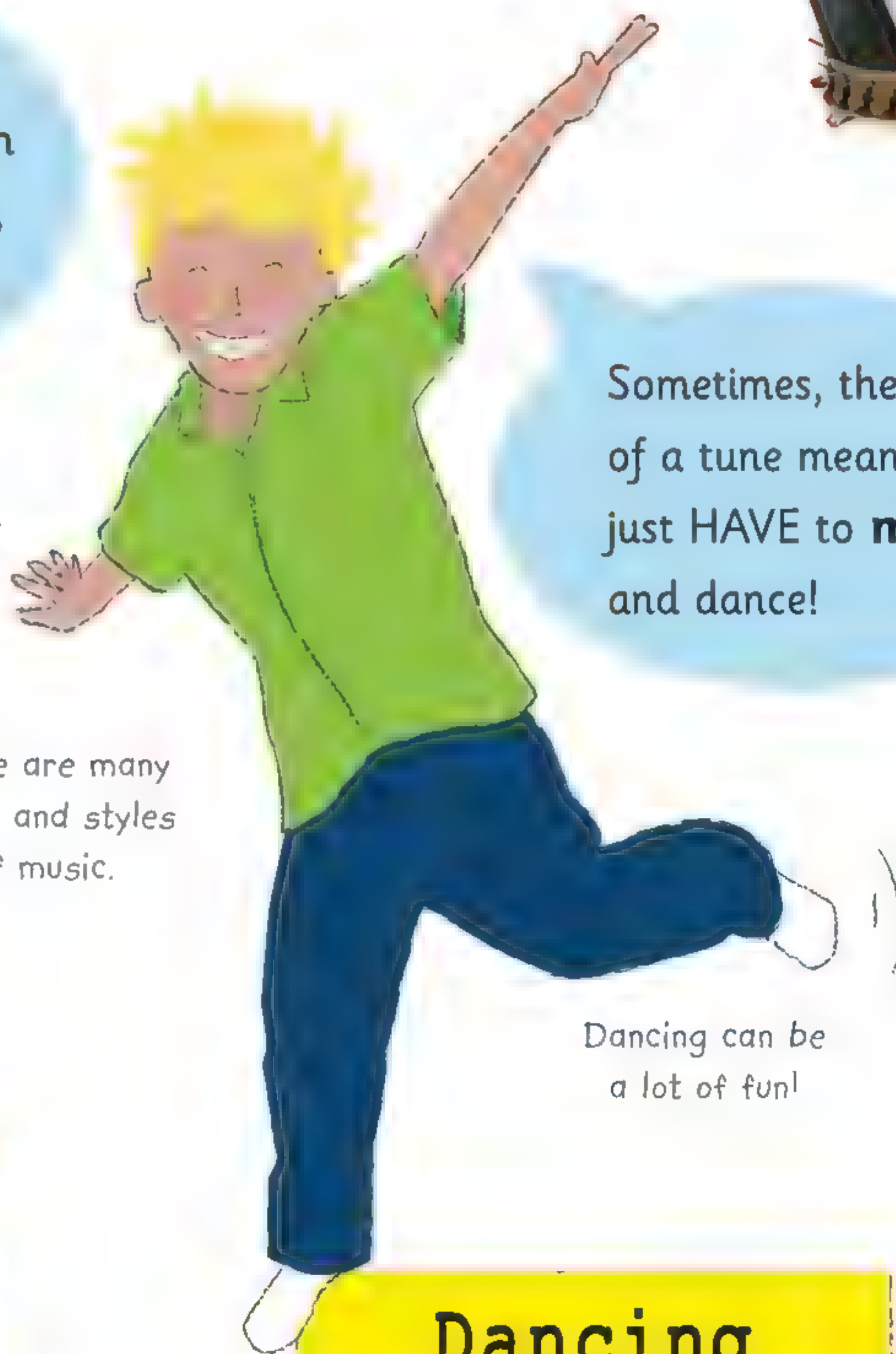


Music can **affect** you in many ways. Listening to it can calm you down, cheer you up, or even help you concentrate.



### Listening

There are many types and styles of music.



Sometimes, the beat of a tune means you just **HAVE** to **move** and dance!

Dancing can be a lot of fun!

### Dancing



# Amazing art

Whether you paint, draw, take photos, or sculpt, there are so many ways to create beautiful things.



## Painting

With just a brush, some paints, and a little practice, people can create beautiful images on canvas or paper.



This statue was carved from one piece of marble!

Crafts and collage are fun too!

## Sculpture

Sculptures are a type of 3-D art. They can be made from almost anything—from marble to trash!



## Photography

Cameras let you capture a moment in time and see the world from different angles.



Cameras let in light and turn it into pictures.

## Drawing

Using pencils, pens, crayons, or even your computer, you can scribble, sketch, and draw.



## Mosaics

This ancient type of art is made by sticking small tiles together to form a bigger image.







# Getting better

What do we do if we're not feeling well?

We can visit doctors and nurses! Their special skills and instruments can make us feel good again.



## Miraculous medicine

These are some of the developments in medicine that help people to live longer and healthier lives.

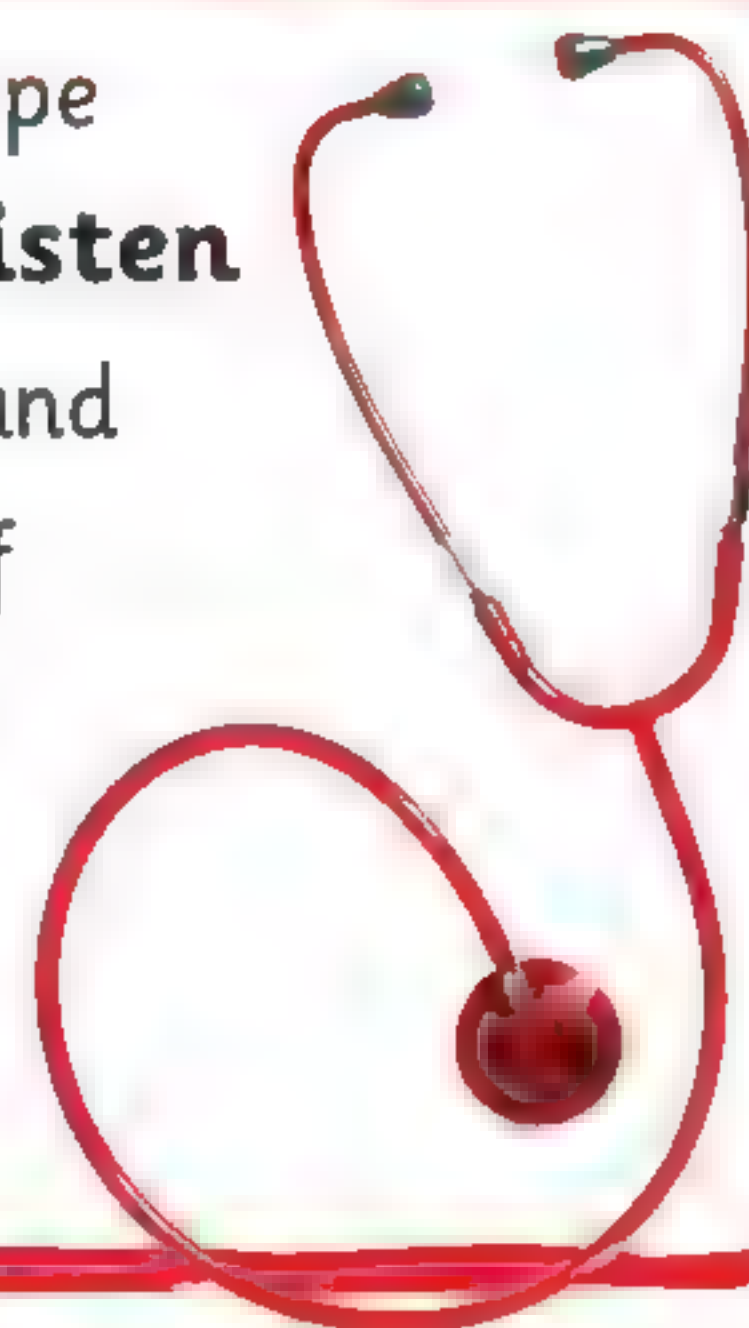
### Vaccines



Edward Jenner discovered we can **protect** people from some diseases by giving them a safe amount of it.

### Stethoscope

The stethoscope lets doctors **listen** to the heart and lungs to see if there are any problems.



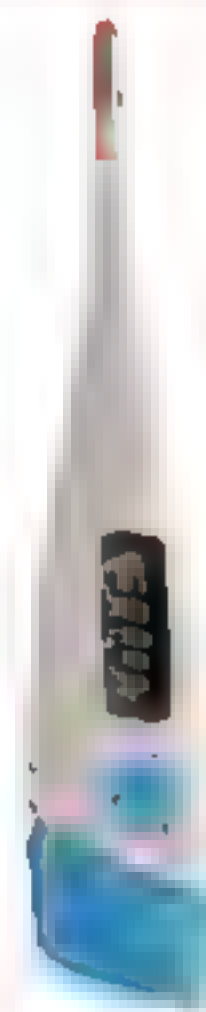
### Transplant

If someone's heart isn't working very well, they can get a **new one** from a donor.



### Thermometer

A high temperature is usually a sign of fever. Thermometers help doctors measure **temperature**.



### X-rays

Doctors use X-rays to take photos of your teeth and **bones** to see if they are broken.







## Prevention

Doctors are great at making us feel better, but an even better way to keep us feeling good is stopping us from getting ill in the first place!

Mosquito nets stop me biting people and spreading diseases.



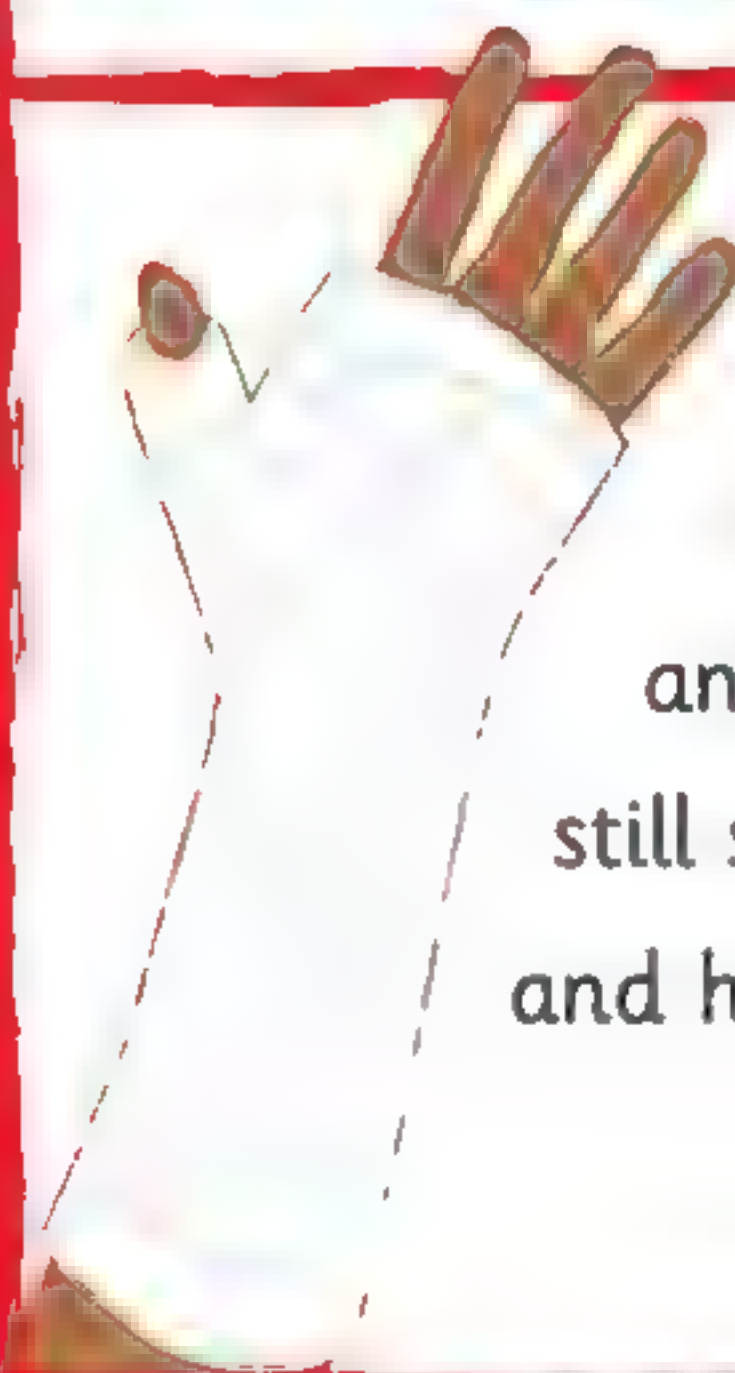
## Antibiotics

Antibiotics are very important medicines that are used to fight nasty **infections** in the body.



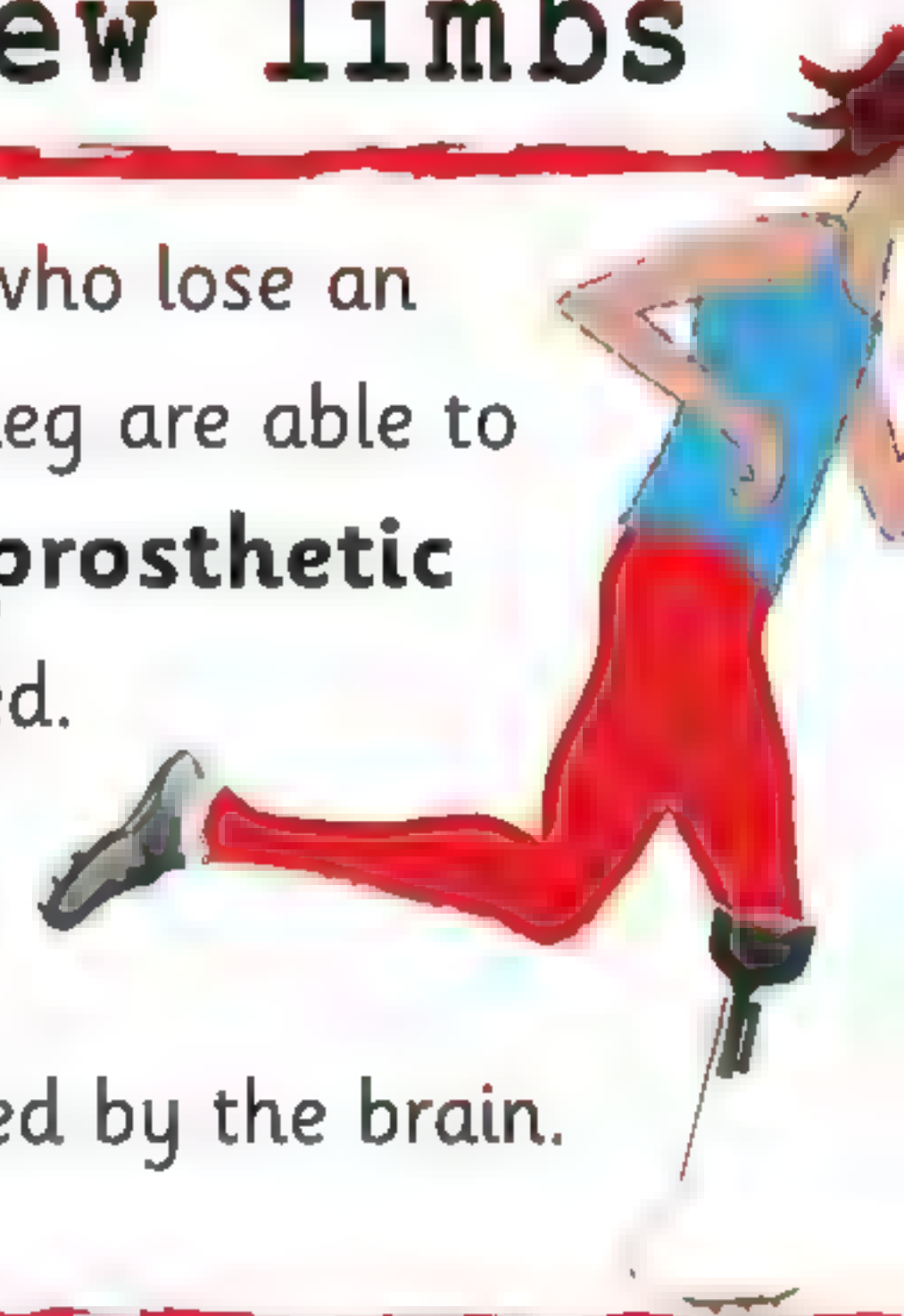
## Casts

A hard cast helps protect broken **bones** and keep them still so they mend and heal properly.



## New limbs

People who lose an arm or leg are able to have a **prosthetic** one fitted. Some can be controlled by the brain.



## Surgery

Modern "**keyhole**" surgery is safer and less invasive than surgery used to be.



## Ultrasound

Ultrasounds let doctors look at moving images from inside the body. It's mostly used to check up on unborn **babies**.



## Cameras

Endoscope capsules are cameras so small you can swallow them!

They let doctors see inside your body.







# Purr-fect pets

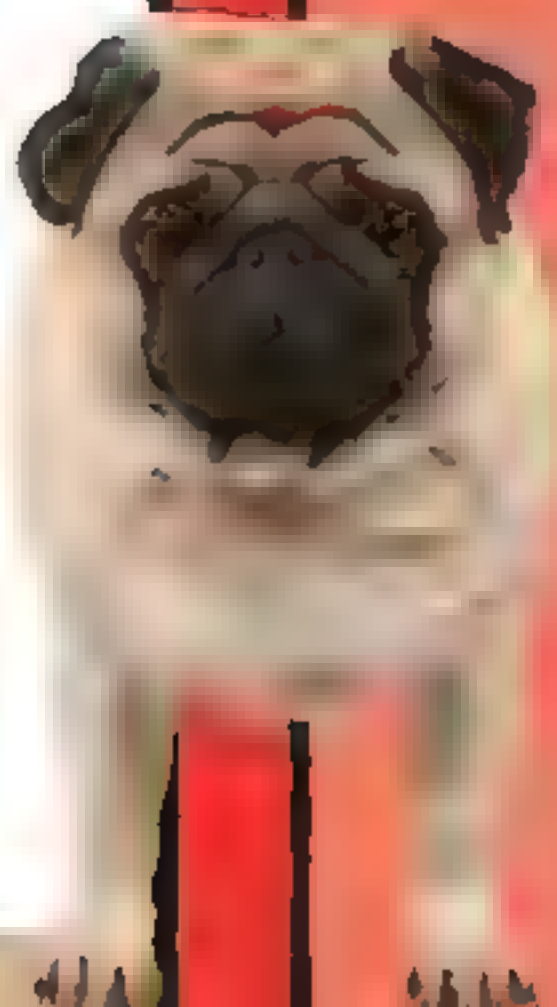
Pets can live in our home or in our yards, and they make great friends. They need lots of **love** and **care**, but a good pet is part of the family!

Almost half of all households in the USA have a pet dog or cat.



## Dogs

Known as man's best friend, dogs are clever, loving, and loyal. They need daily **walks** and lots of gentle **training**.



## Cats

Playful and cuddly, cats make **great company** around the house. They also like to run and play outside. Most of all, they love to snooze!







## Birds

Birds need a big **aviary** to live in so that they can fly around. Parrots can live for 90 years, so they are a big **responsibility**!



## Chickens

It's best to keep chickens as a group of a few **hens** and one **rooster**. Chickens need space to wander and a nice coop to live in.



## Fish

A big, clean **tank** with hiding places and other **fishy friends** is important if you want to keep fish.



## Rabbits

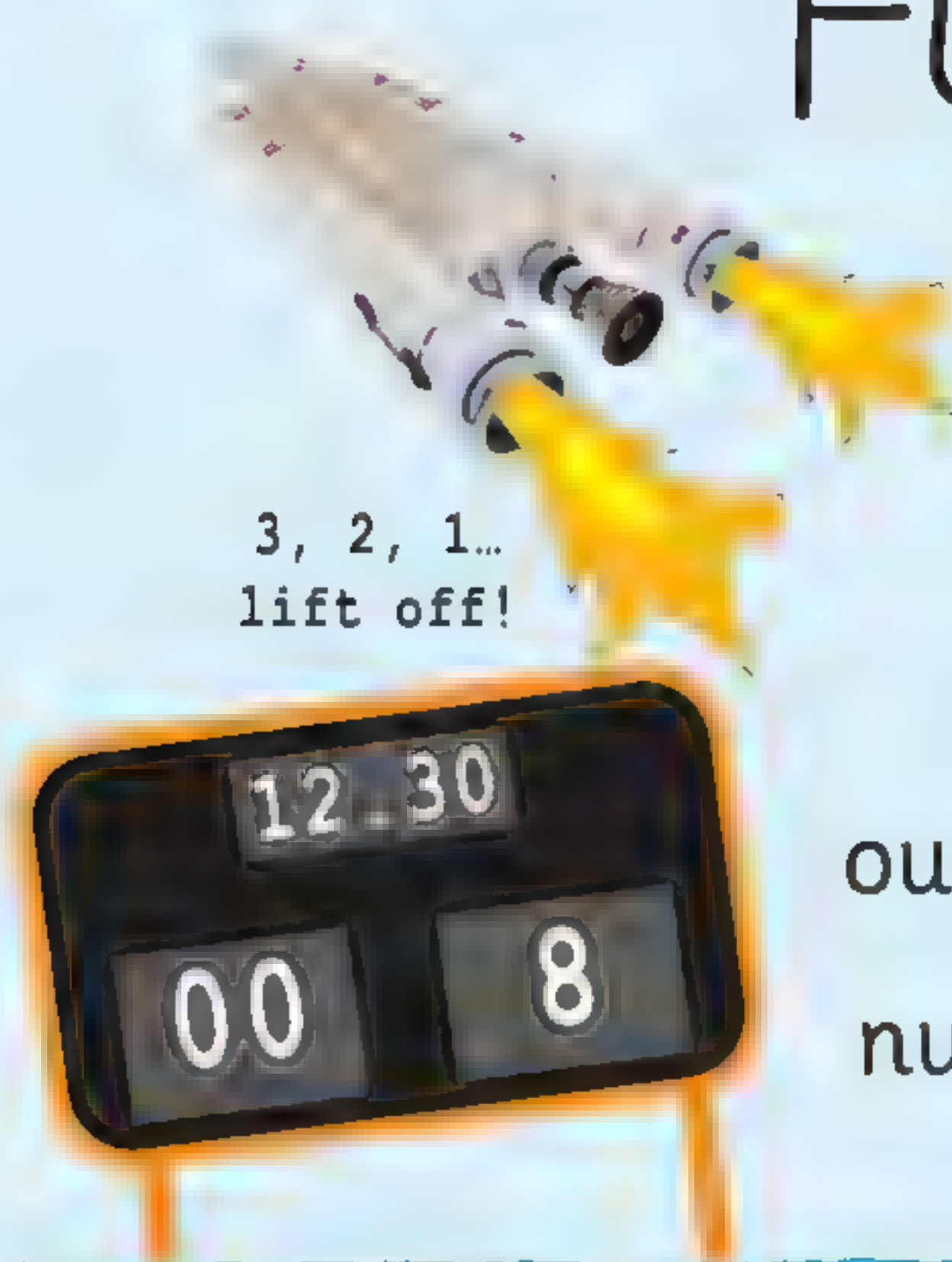
Rabbits like to be petted but not picked up. They need rabbit **friends**, lots of **hay**, and a **big home** to run around in.







# Fun numbers



3, 2, 1...  
lift off!

Numbers help us to understand the world around us. We mostly use them to count and measure things (and work out when our birthday is!), but some numbers are **really** special.

0

It may seem like nothing, but try counting, telling the time, or keeping score without **zero**!



3.14

Math experts use "pi" to work out difficult sums. We shorten pi to 3.14 but it's actually **MUCH** longer.

"Pi" sounds like  
"pie" but you  
can't eat it!"



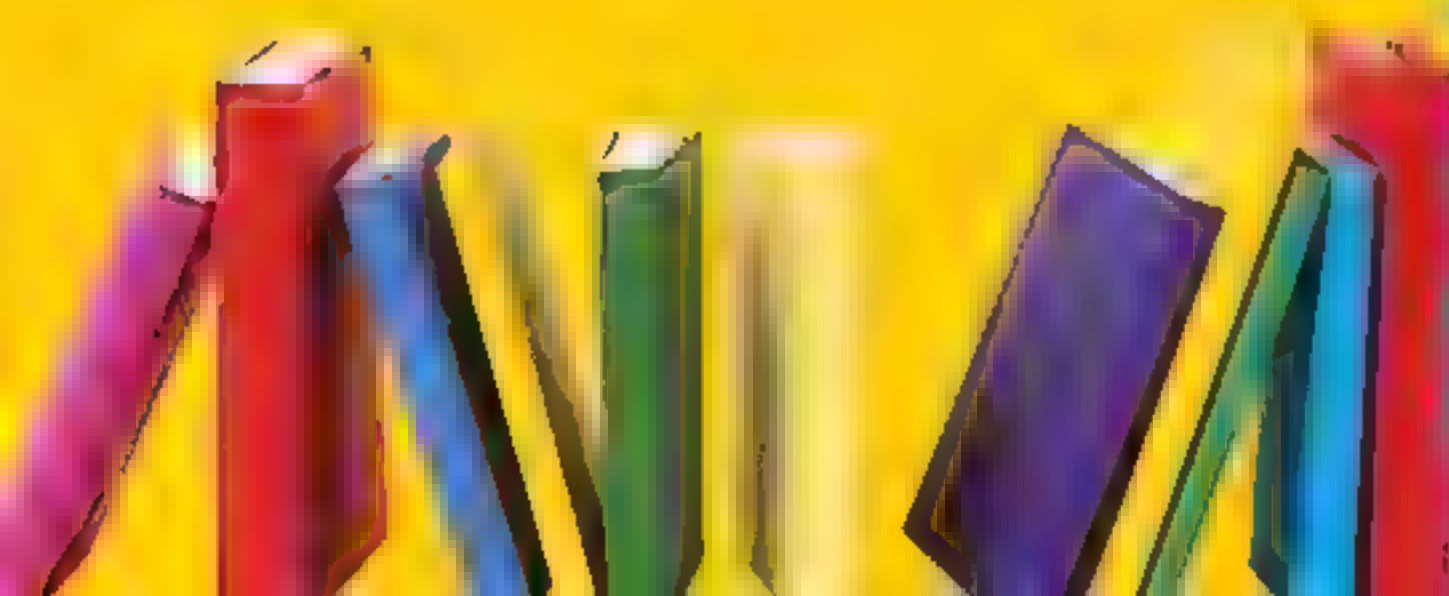
4

This number is **unlucky** in China, Japan, and Korea, because it can sound like the word for death.



26

This is the number of **letters** there are in the English alphabet



52

There are 52 **weeks** in a year. That's how long it takes for the Earth to move around the Sun.



60

The number 60 is useful to tell the **time**. There are 60 seconds in a minute, and 60 minutes in an hour.

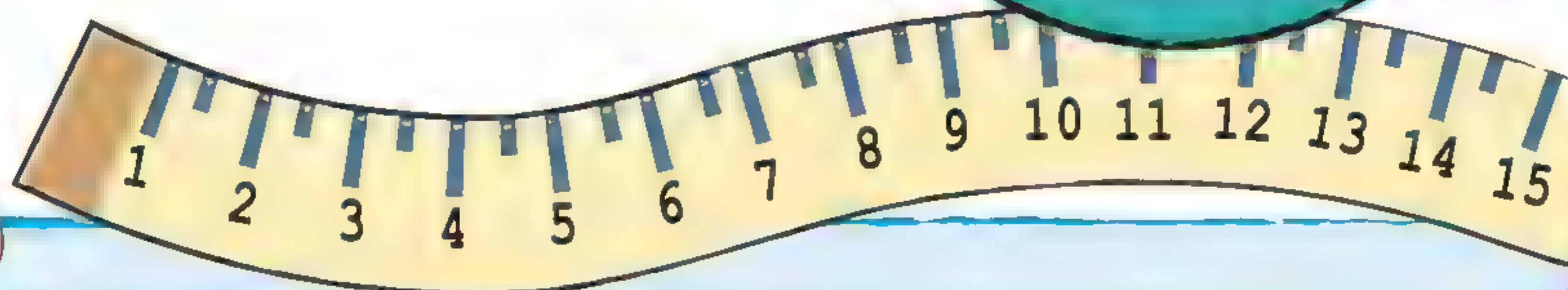






## Inventing numbers

The earliest known number system was developed a long time ago in a place called **Babylonia**. Today numbers are all around us and we use them for all sorts of things.



7

There are seven days in every **week**. Seven is also a lucky number in many countries.



10

Our counting system is based on the number 10, probably because we have **10 fingers**.



13

Many people think 13 is unlucky. Some buildings don't label the 13th floor as 13!



88

In China, eight is thought to bring luck and wealth. What's better than one eight? Two of them!



365

Remember this number. It's how many days you need to wait between **birthdays**!



$\infty$

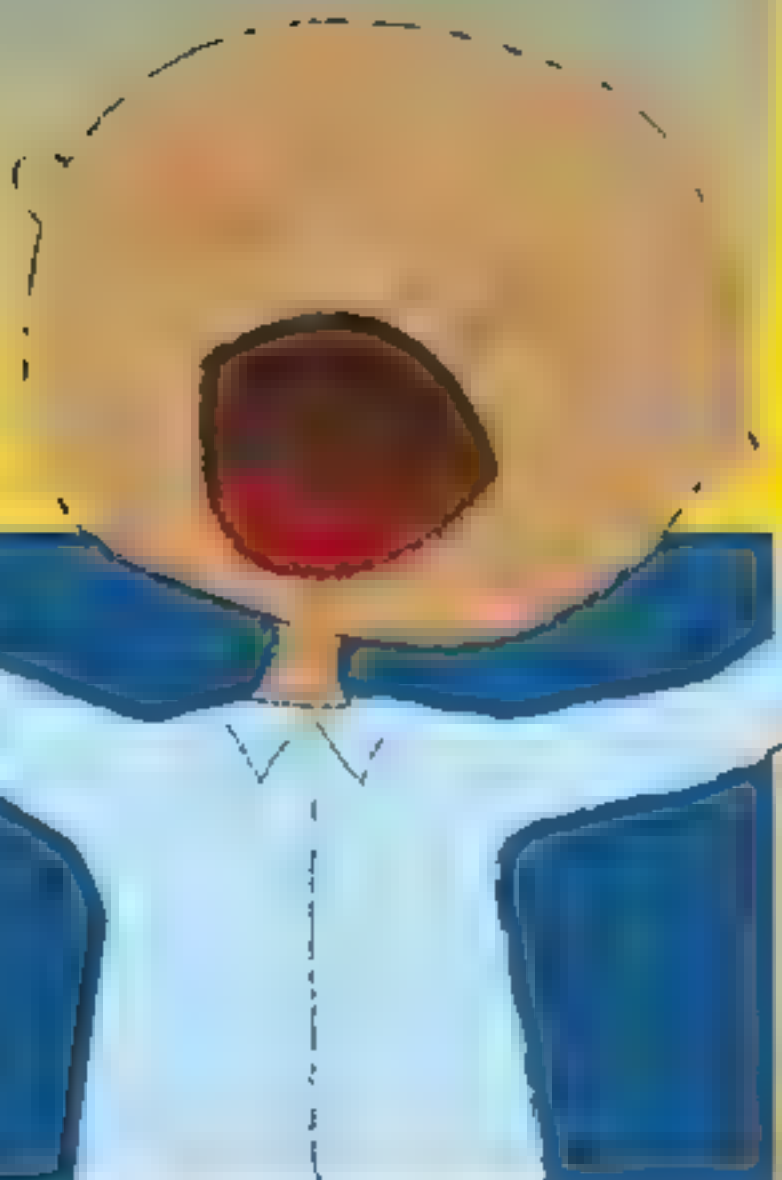
This symbol means "**infinity**." It's not a number, but it means something that doesn't end. It's impossible to count to infinity.






# What's the time?

We can't see or feel it, but everything we do takes time. Its most important use is for planning our days. Does this day seem anything like yours?




Wake up, sleepyhead! It's a brand new day.

7am




Breakfast time! You need lots of energy for the day ahead.

7:30am



It's time for school. What will you learn today?

8:30am



Is your stomach rumbling? It must be lunchtime!

12pm

## Telling time

We can't feel time, but we can measure it. These numbers help us to do that.

There are **60 seconds** in a **minute**. That's about how long it might take to put on your shoes.



There are **60 minutes** in an **hour**. About the time it takes to eat dinner.







3:30pm

Time to go home.  
What will you get up to  
this afternoon?

After-school  
activities are  
so much fun!

It's time to sit  
down and eat  
your evening  
meal. Yum!

It's starting  
to get late.  
Time to bathe  
and brush  
your teeth.

Light's out  
until tomorrow.  
Goodnight!

4:30pm

6pm

7pm

7:30pm

A whole **day** (including  
night) takes **24 hours**.  
This is how long it takes the  
Earth to spin around once.



There are **7 days** in a  
**week**. So it's never too  
long until the weekend!





# The ant and the grasshopper

One lovely **spring** day, a grasshopper was playing his guitar, when a little ant walked by...

"Little ant, why don't you  
come and sing along  
to my songs?"

"I must prepare for the  
winter, and so should you."

The grasshopper laughed.  
That sounded like too much  
work. Besides, winter was such  
a **long** way away and he had  
plenty to eat at the moment.

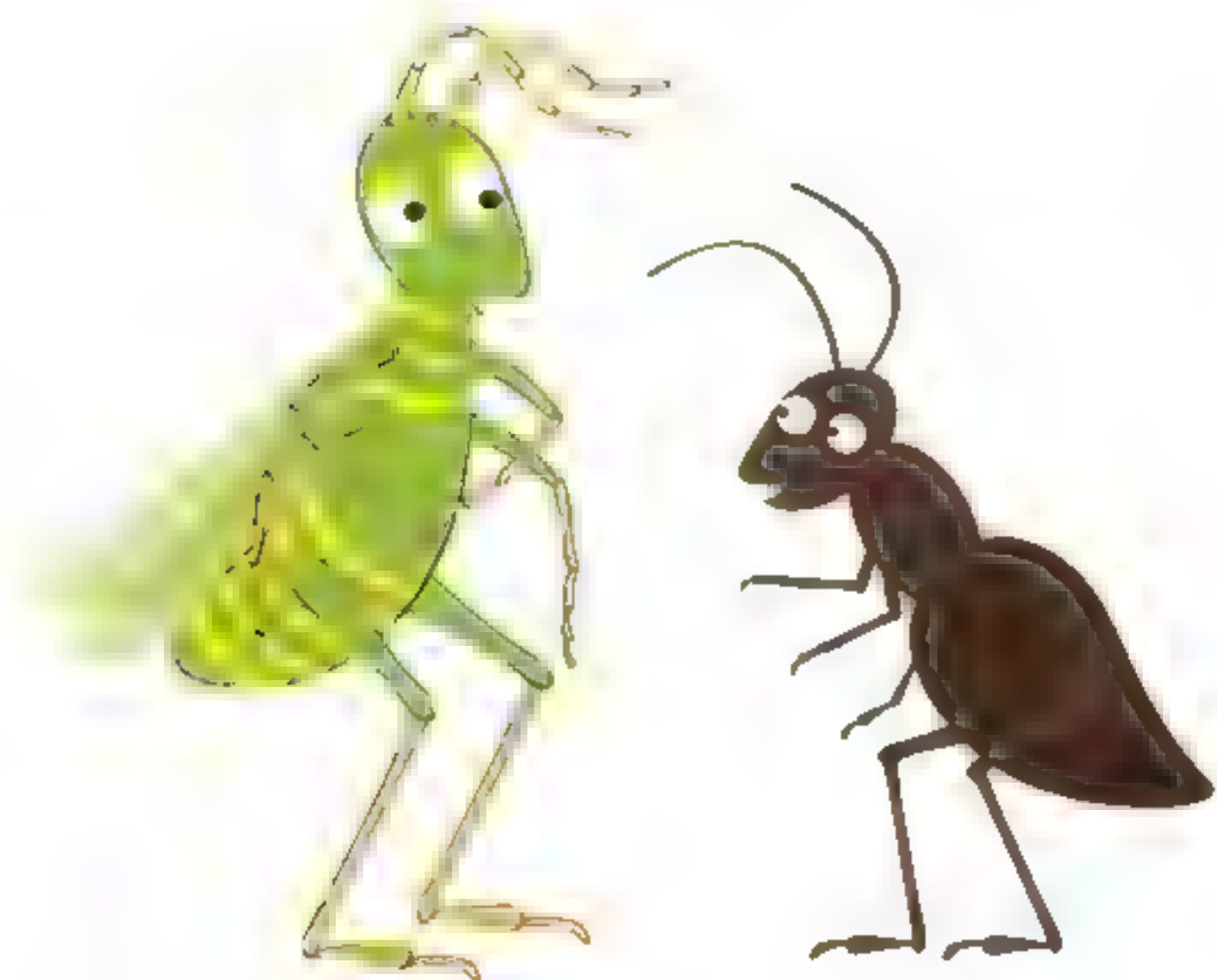




Summer came and went, and the grasshopper continued to laze about. The ant reminded him to **prepare** for winter, but the grasshopper didn't listen.



But winter came earlier than usual that year and the grasshopper was shocked. He was **cold** and **hungry**, and he couldn't find food or shelter anywhere.



"The little ant was right!" he thought sadly. "I must not be so silly next year." Luckily the ant was willing to **share** with him, but the grasshopper learned how important it is to work hard and be prepared.



Here are some other





# very important things



These pages give you just a little peek into even **MORE** amazing things that are waiting to be discovered. So let's turn the pages and find out your star sign, learn the names of beetles, master saying hello in different languages, and much, much more.



# Saying hello...

All across the world, people greet each other in different ways. It's good to know how to say **hello**!

**French**  
**Bonjour**  
(bon-zhoor)

**Mandarin**  
**Nǐhǎo**  
(Nee-how)

**English**  
**Hello**  
(Hell-loh)

**Portuguese**  
**Olá**  
(Oh-lah)

**Swedish**  
**Hej**  
(Hay)

**Japanese**  
**Konnichiwa**  
(Kon-nee-ch-ee-wah)

**Spanish**  
**Hola**  
(Oh-lah)

**German**  
**Guten Tag**  
(Goot-en tahk)

## Alphabets

Some languages such as Japanese and Chinese are written in different scripts or alphabets. So in those countries they'd be written differently to the way you see here.

**Hawaiian**  
**Aloha**  
(Ah-loh-ha)

**Dutch**  
**Goed dag**  
(goot darg)





# ...and goodbye

Now you know hello, this is what the word for **goodbye** looks and sounds like in different languages.

French

**Au revoir**

(Oh ruhv-wahr)

Mandarin

**Sàijàn**

(Zay jee-an)

English

**Goodbye**

(Good-buy)

Portuguese

**Adeus**

(A-deh-oos)

Swedish

**Hej då**

(Hay daw)

Japanese

**Sayonara**

(Seye-on-ar-rah)

Spanish

**Adiós**

(Ah-dee-oss)

Swedish

**Hej då**

(Hay daw)

German

**Auf**

**Wiedersehen**

(Owf veed-er-zay-ern)

Hawaiian

**Aloha**

(Ah-loh-ha)

Dutch

**Tot ziens**

(Tot zins)

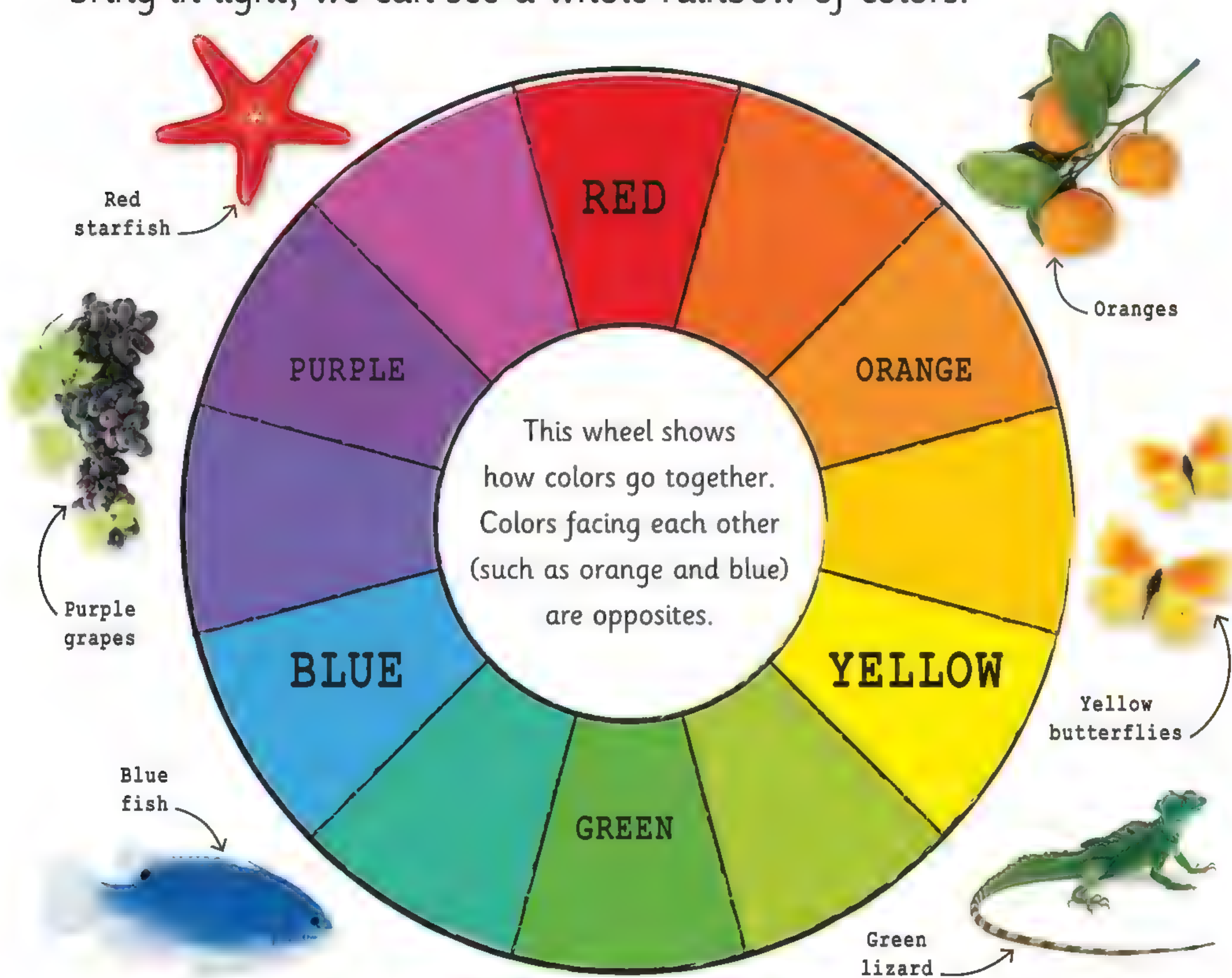
If you learn  
other languages  
you can make  
friends with  
people from all  
over the world!





# Glorious colors

Our eyes are very special. Thanks to the way they bring in light, we can see a whole rainbow of colors.



Some animals, including **DOGS**, see **FEWER** colors than us.

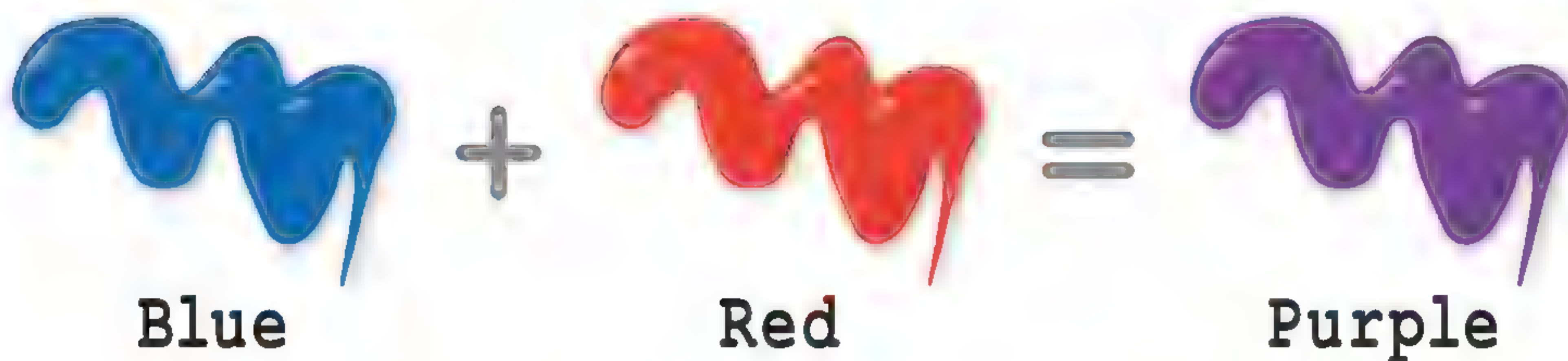


## Mix and match

By mixing colors together we can make new ones. Red, yellow, and blue are called **primary colors** because mixing them creates lots of other colors.



Some toucans have colorful bills. Animals may have bright colors to scare off other animals or to attract a mate.



Other animals, such as BUTTERFLIES, can see MORE.

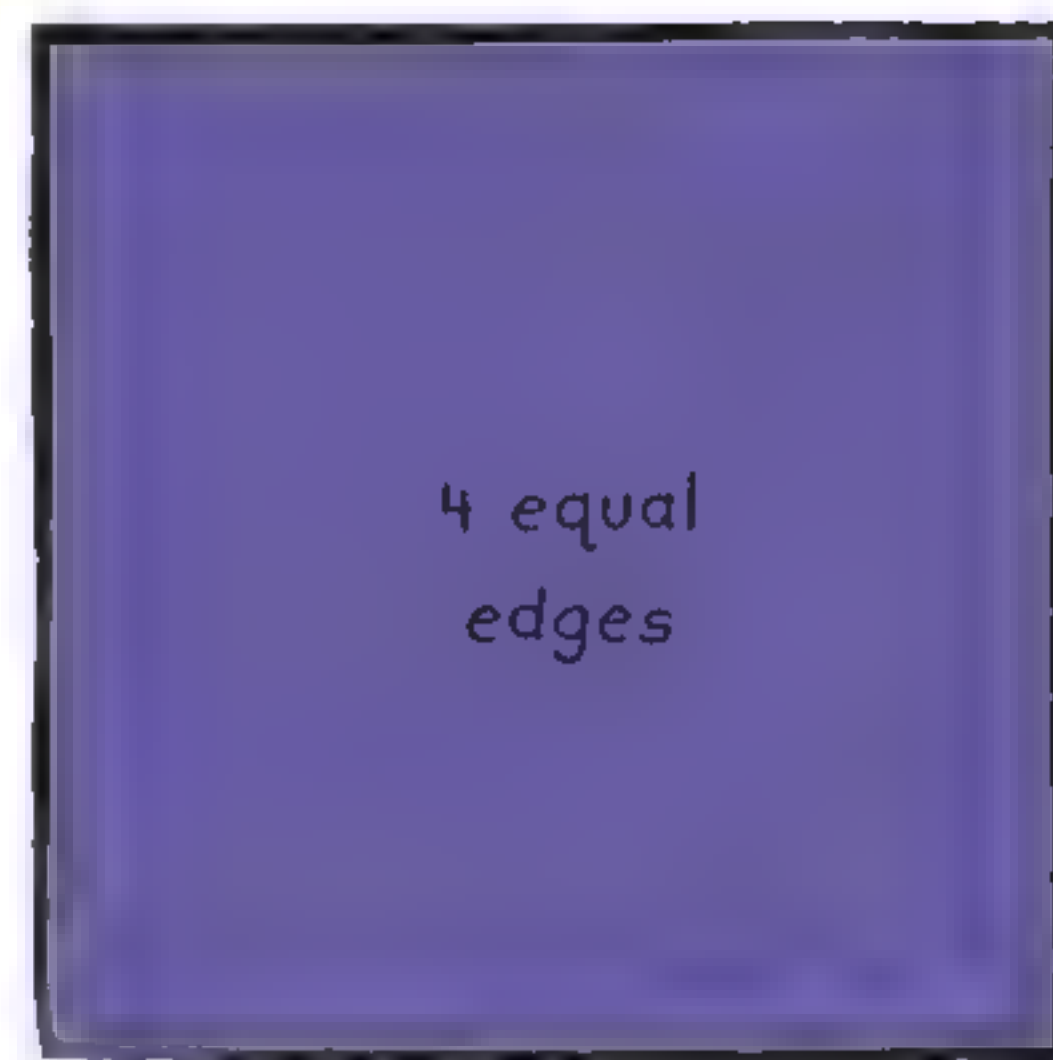




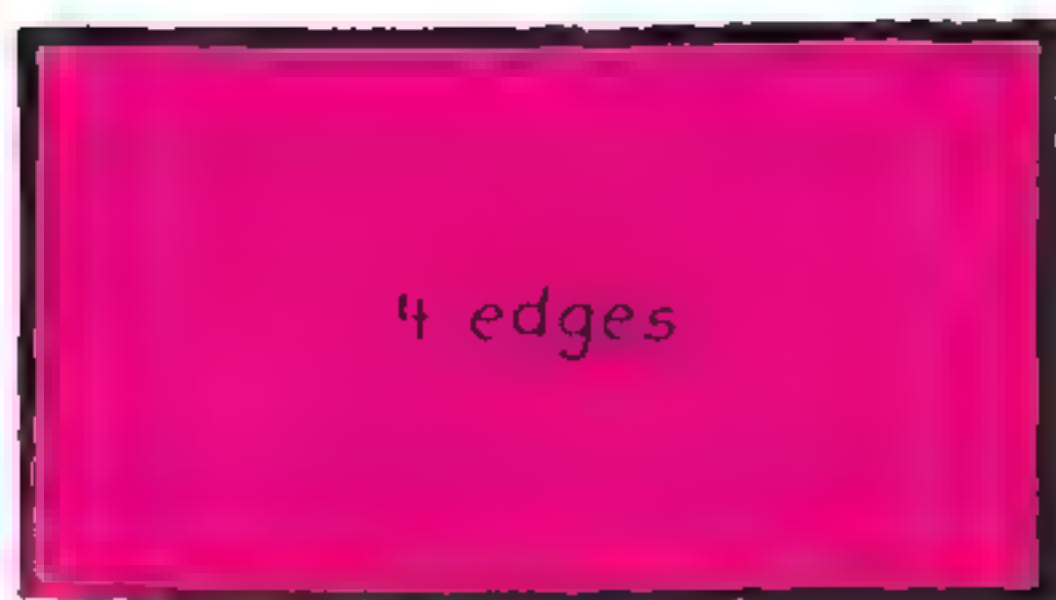
# Super shapes

Whether they have pointy edges, twisty curves, or lots of corners, shapes are all around us wherever we go.

2-D shapes are **FLAT**.  
You can see the whole  
shape on paper.



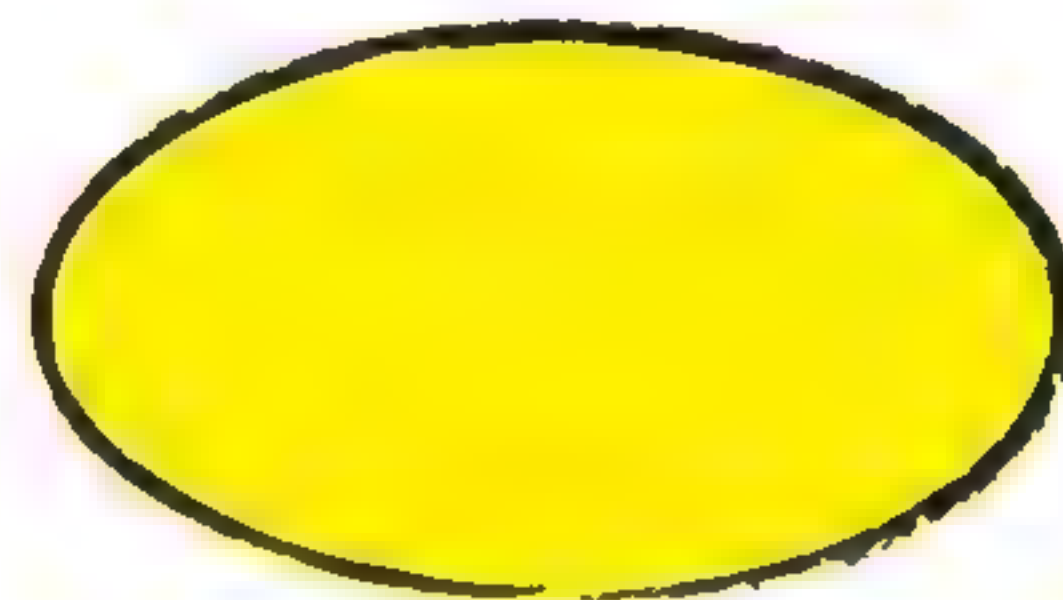
Square



Rectangle

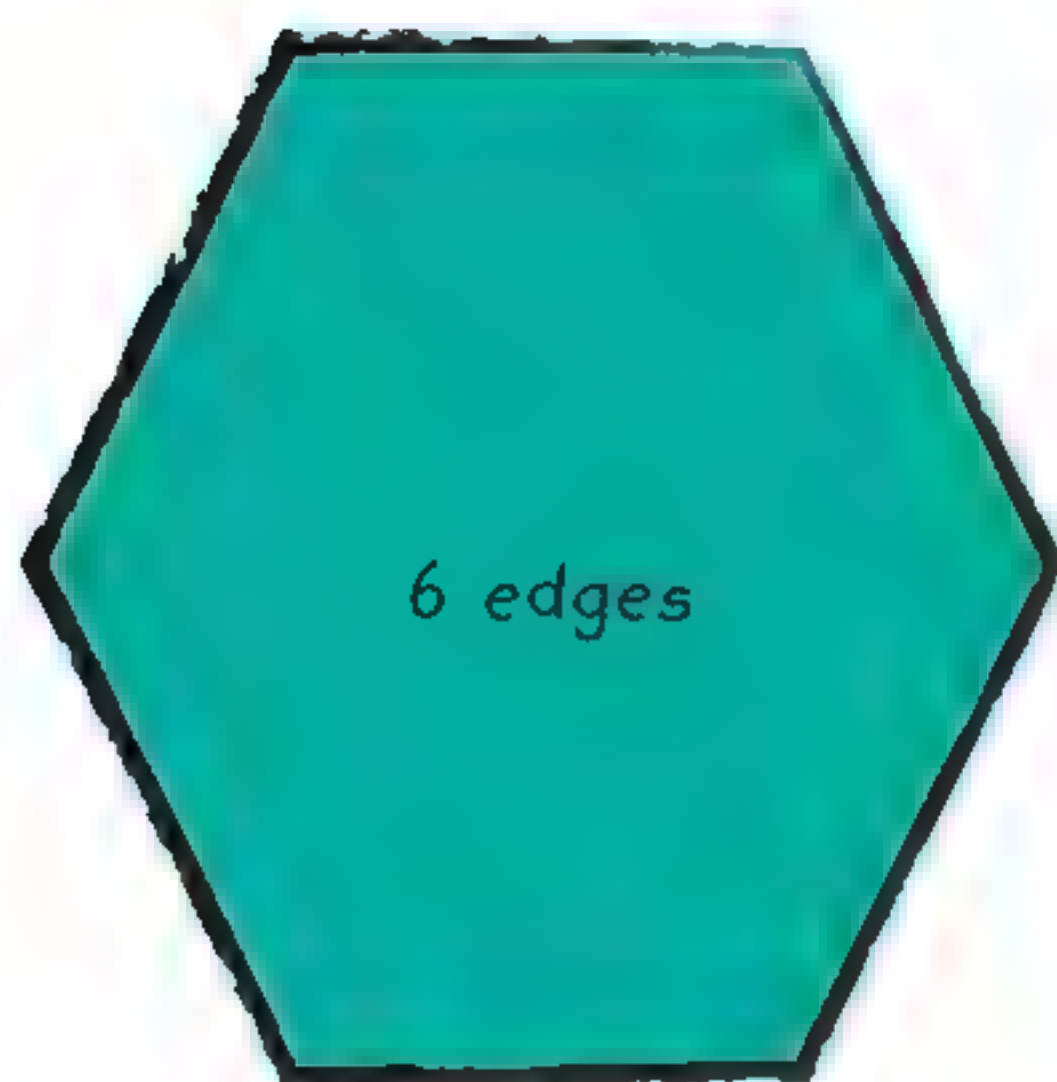


Heart

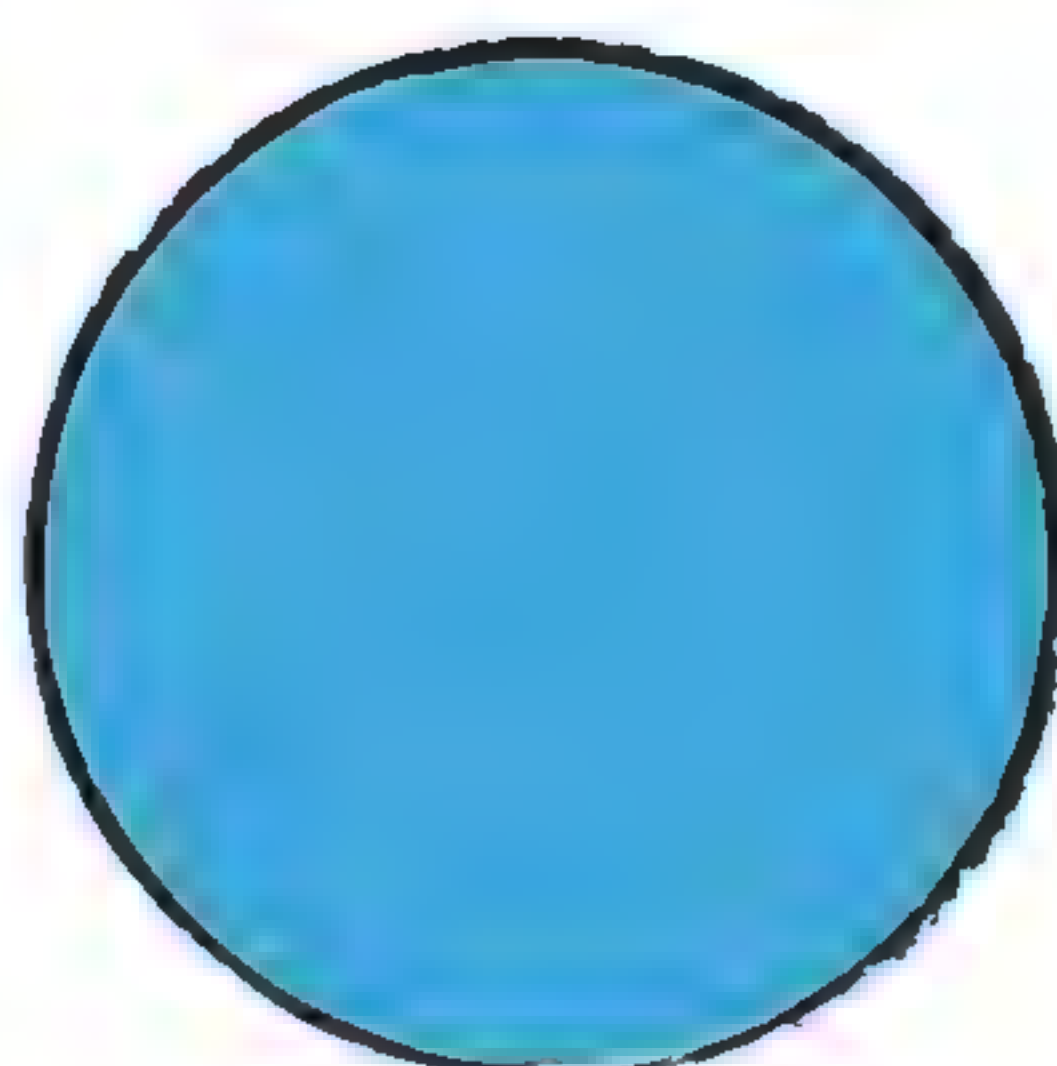


Oval

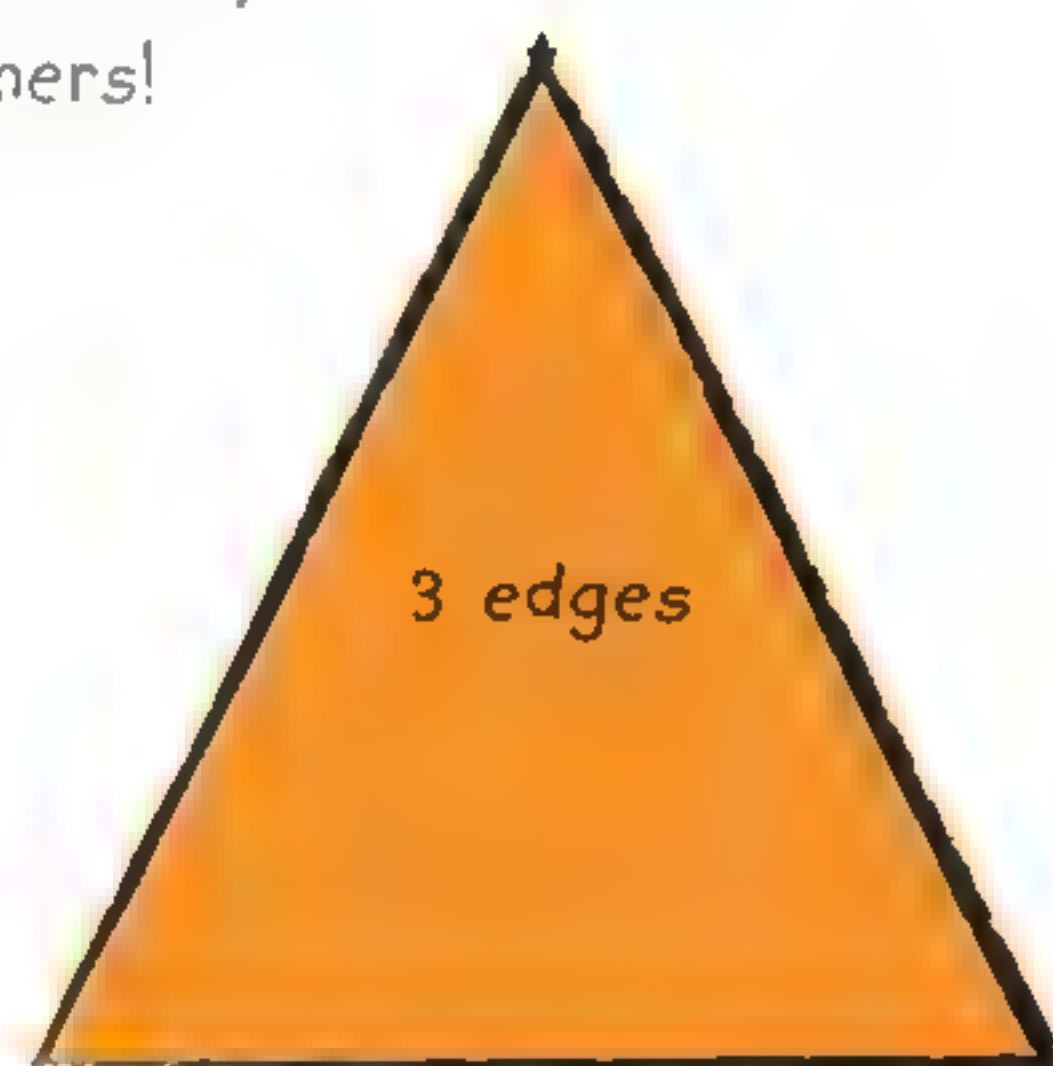
Circles and ovals  
don't have any  
corners!



Hexagon



Circle



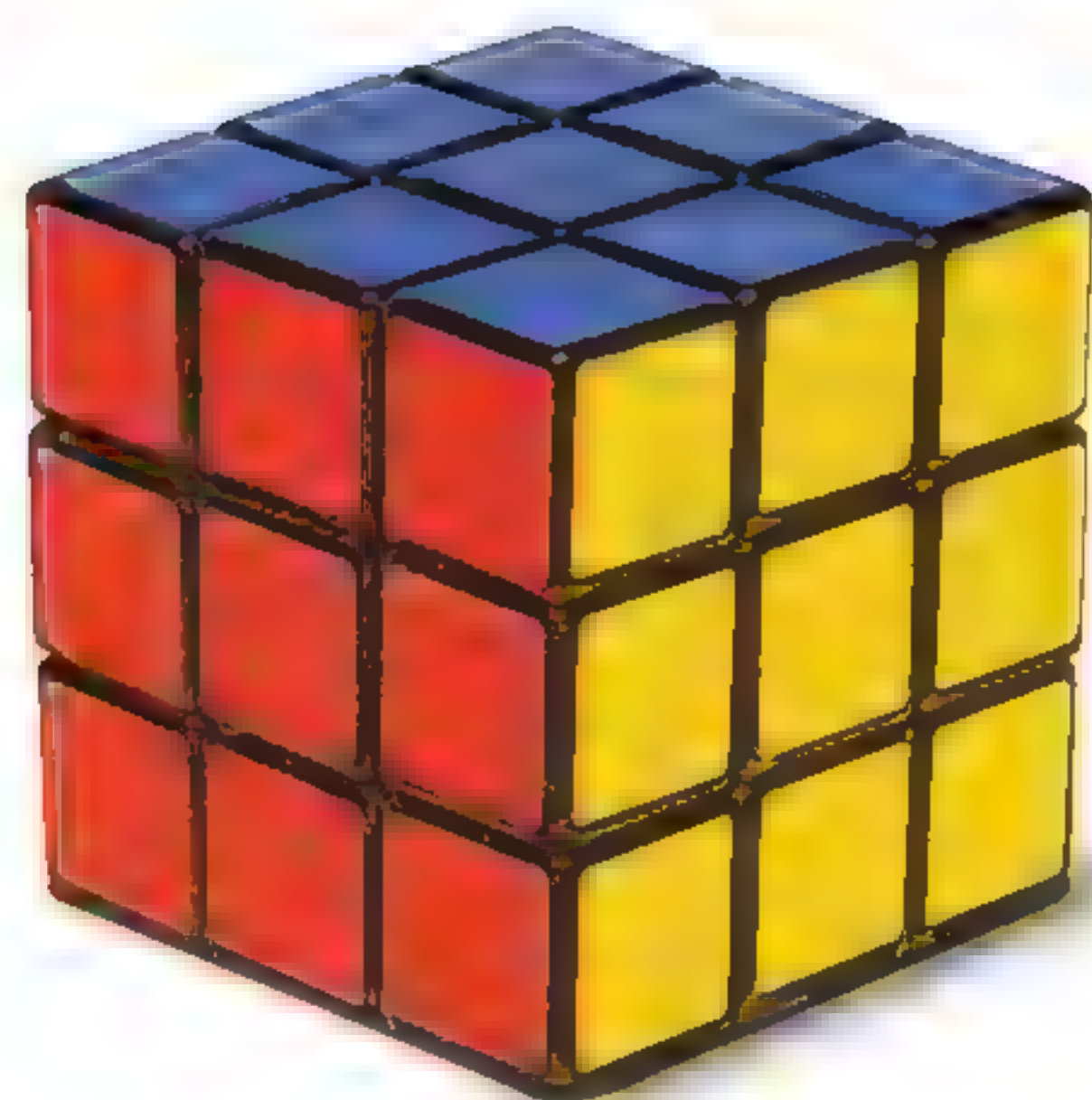
Triangle



These shapes are  
3-D. They are the  
**SOLID** objects  
that you can see  
and touch.



**Cone**

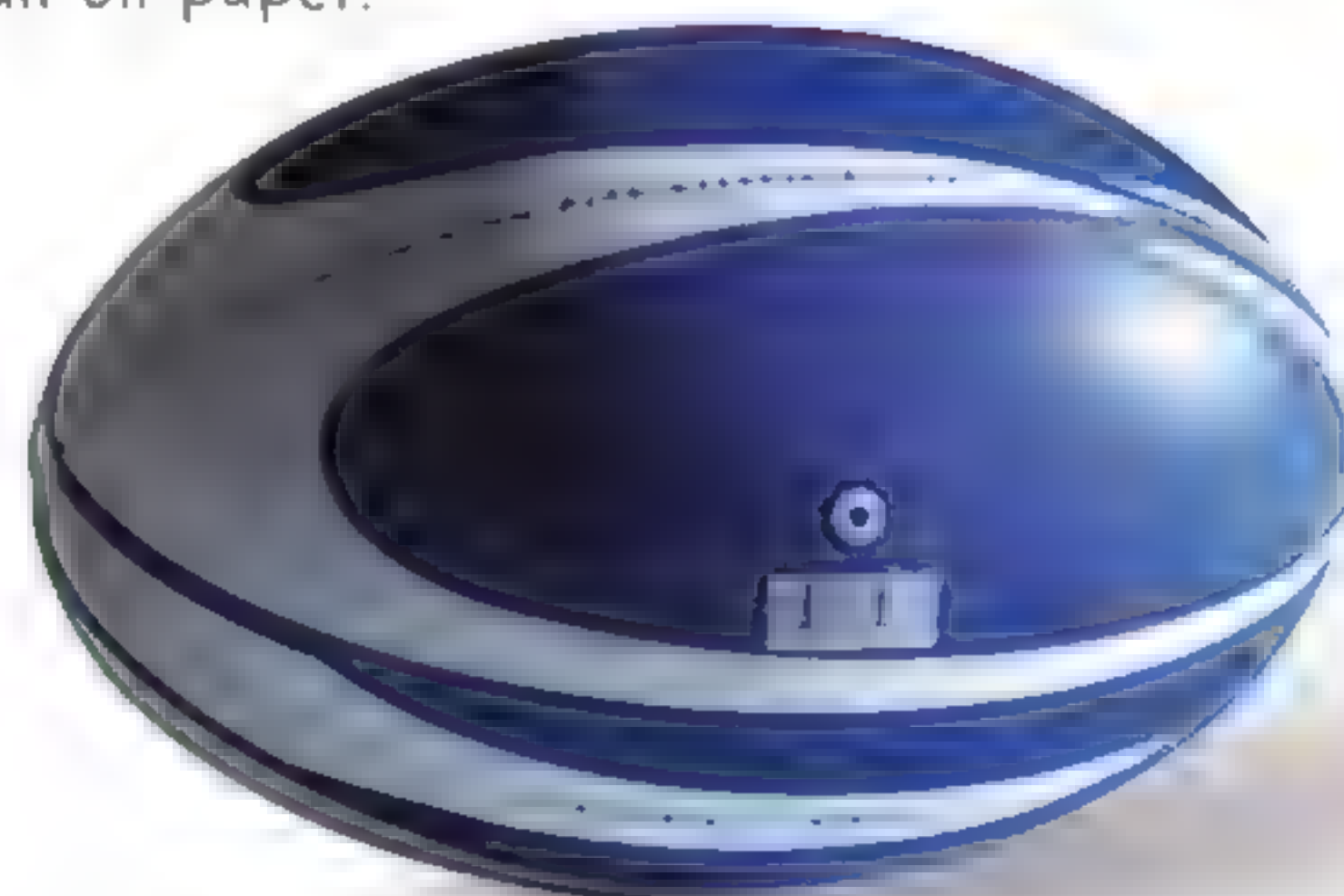


**Cube**

*Cubes and cuboids  
have 6 faces,  
but you can't see  
them all on paper.*



**Cuboid**



**Spheroid**

*This pyramid has  
a square base and  
four triangles that  
meet at the top.*



**Sphere**



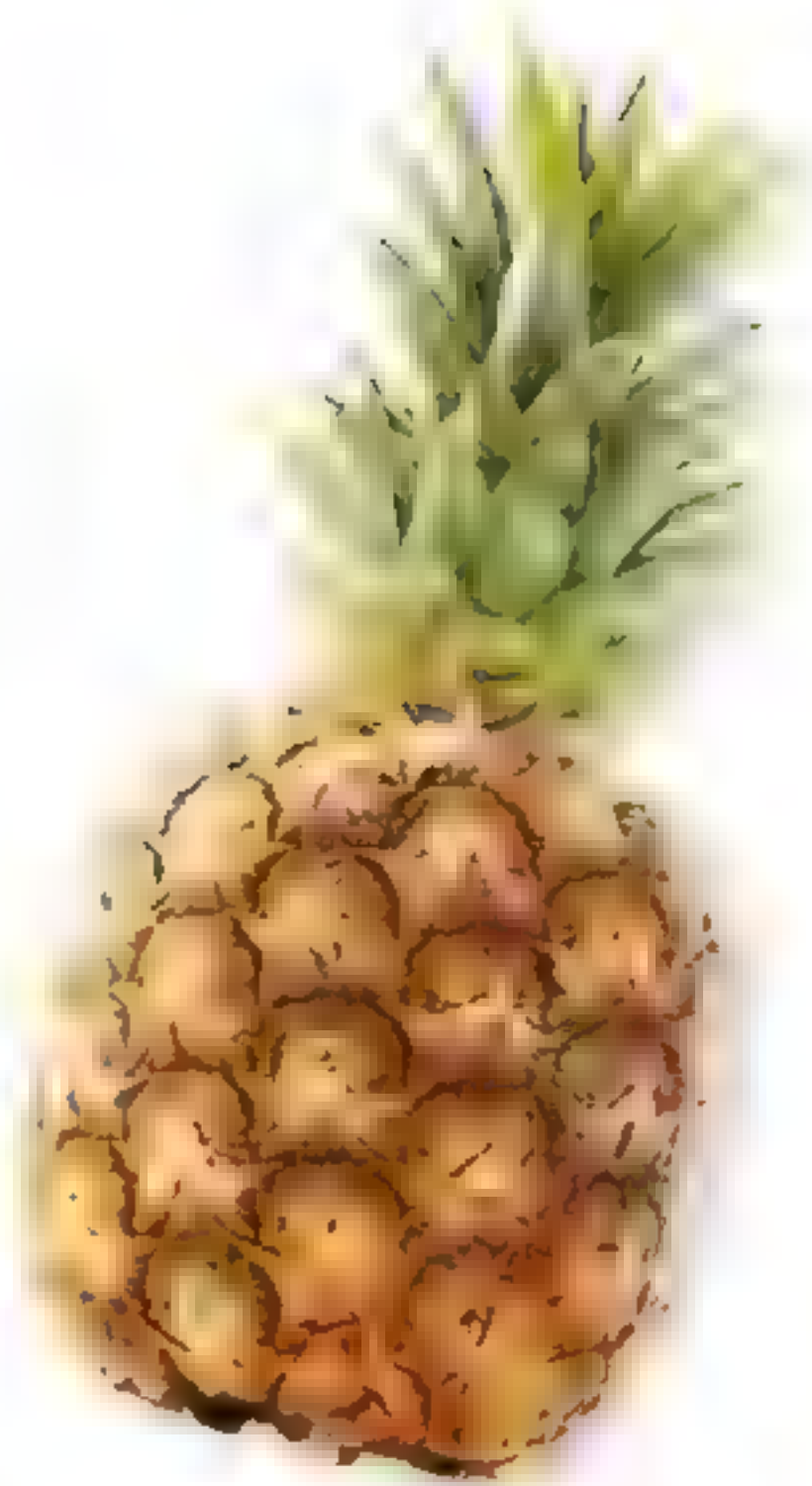
**Pyramid**





# Fantastic fruit

Coming in lots of shapes, sizes, and **colors**, all fruits have seeds. Fruits are full of goodness, so try to eat some **every** day.



Pineapple



Olives



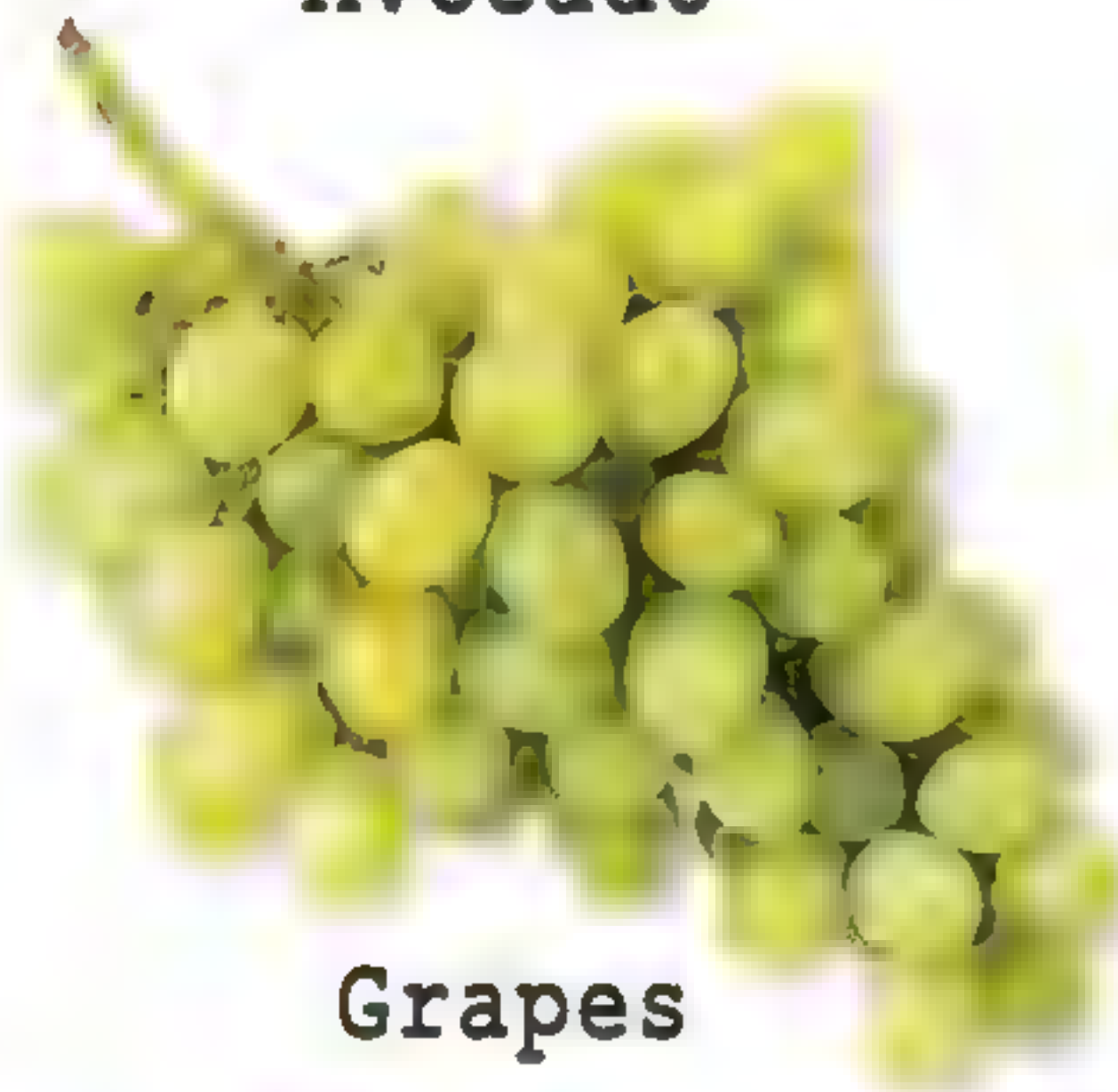
Avocado



Lemon



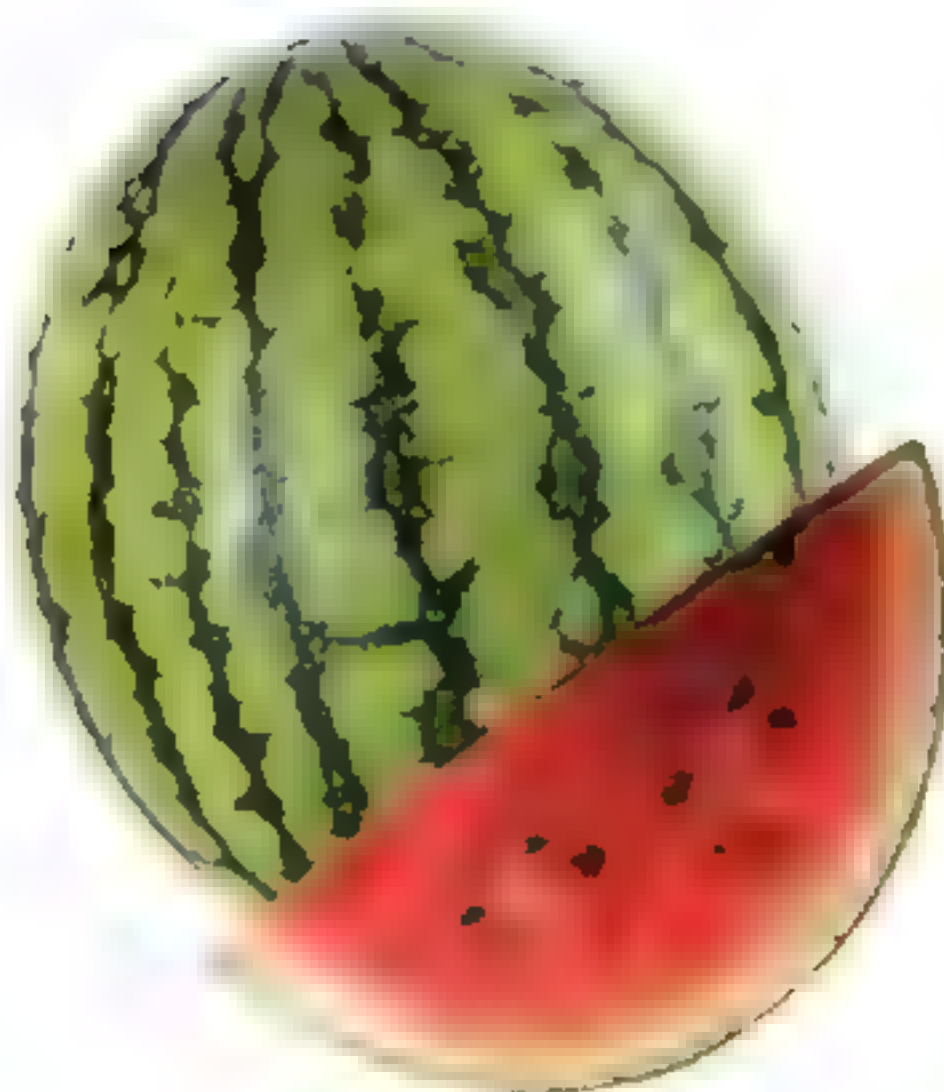
Papaya



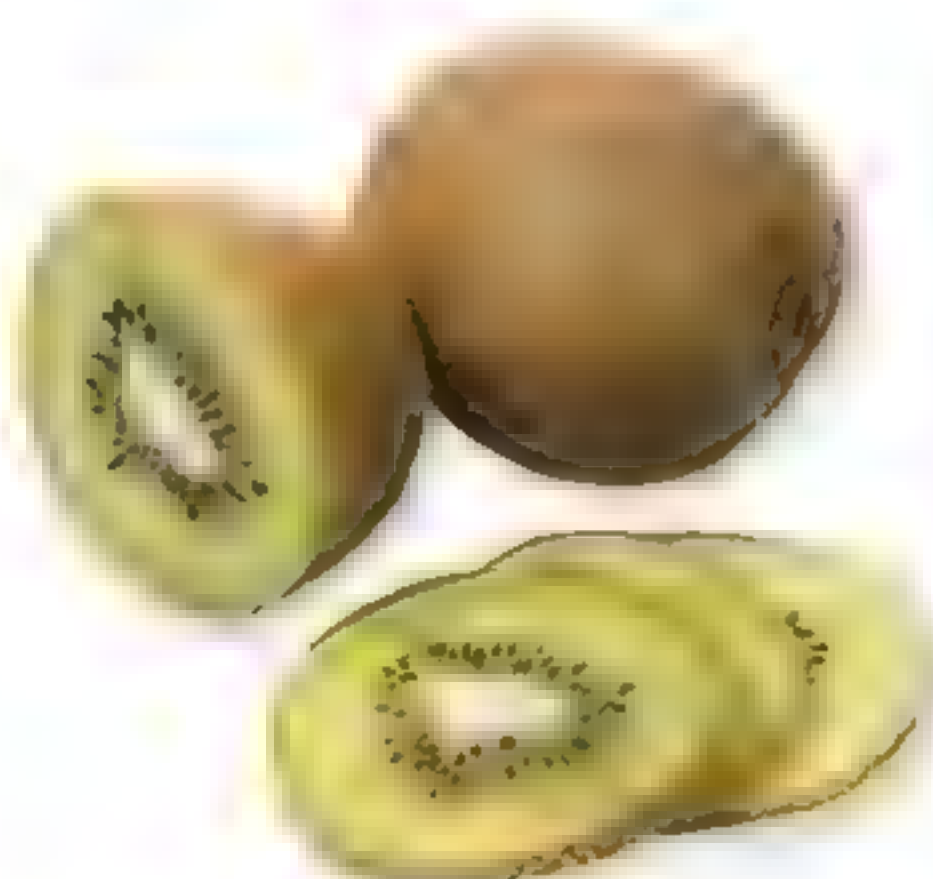
Grapes



Banana



Watermelon



Kiwi



Starfruit

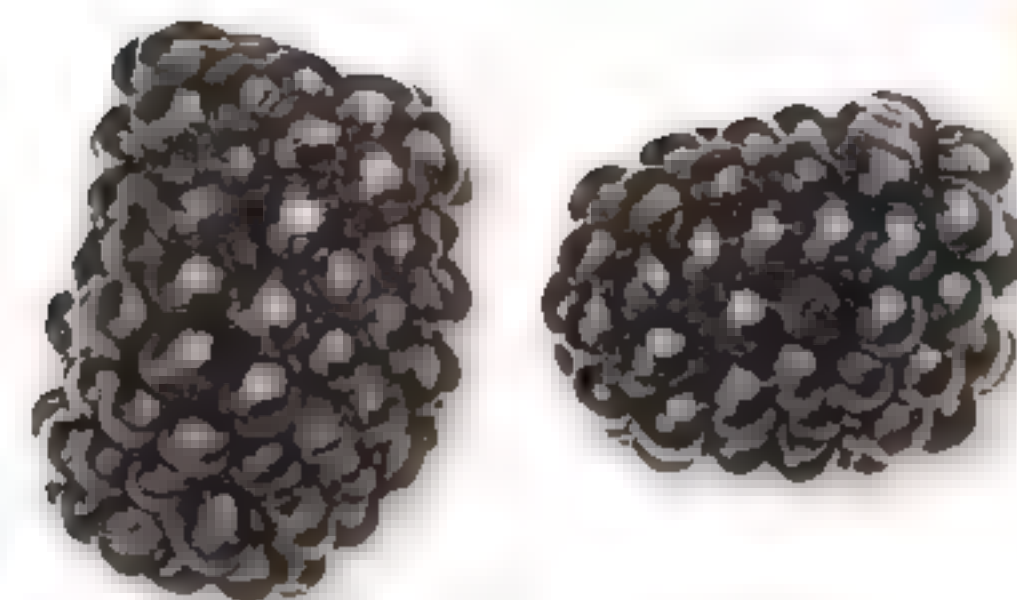




Apricot



Cherries



Blackberries



Physalis



Apple



Plums



Peach



Lychees



Figs



Clementines



Tomato



Blueberries

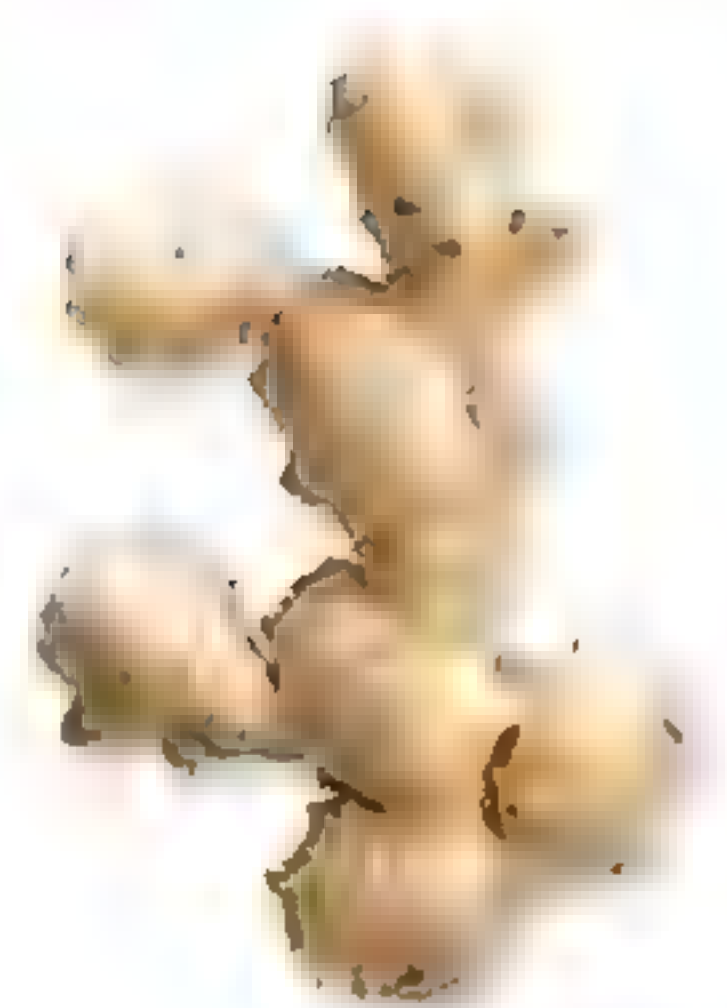
Hard skin  
protects  
the fruit





# Vibrant veggies

Chomping on **vegetables**, whether they're raw or cooked, is a great way of staying healthy. Try to eat them with every main meal.



Ginger



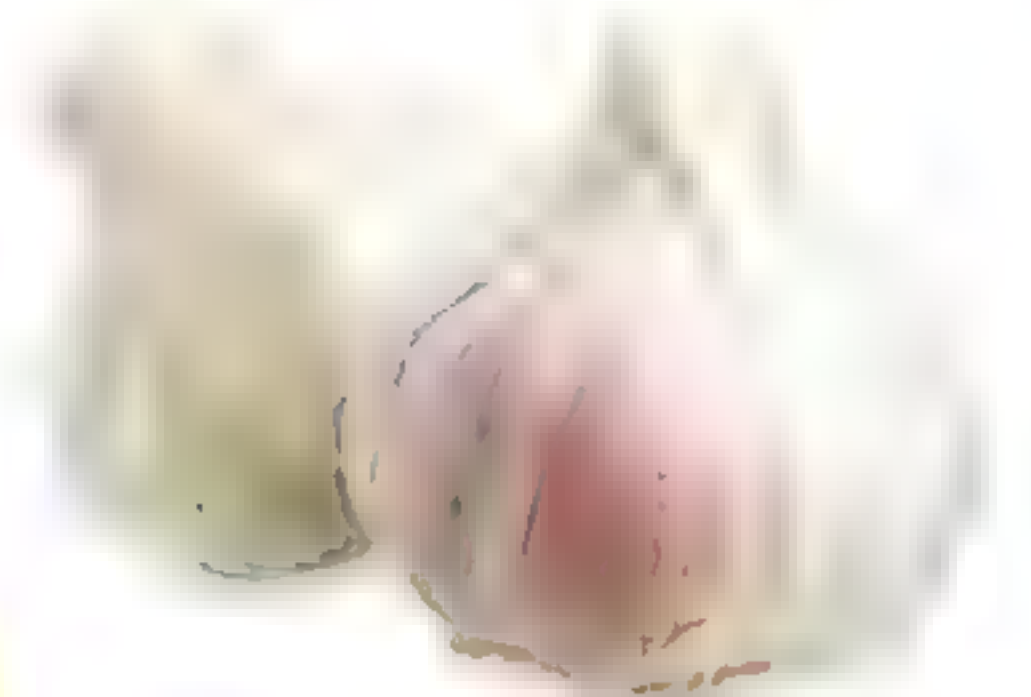
Kale



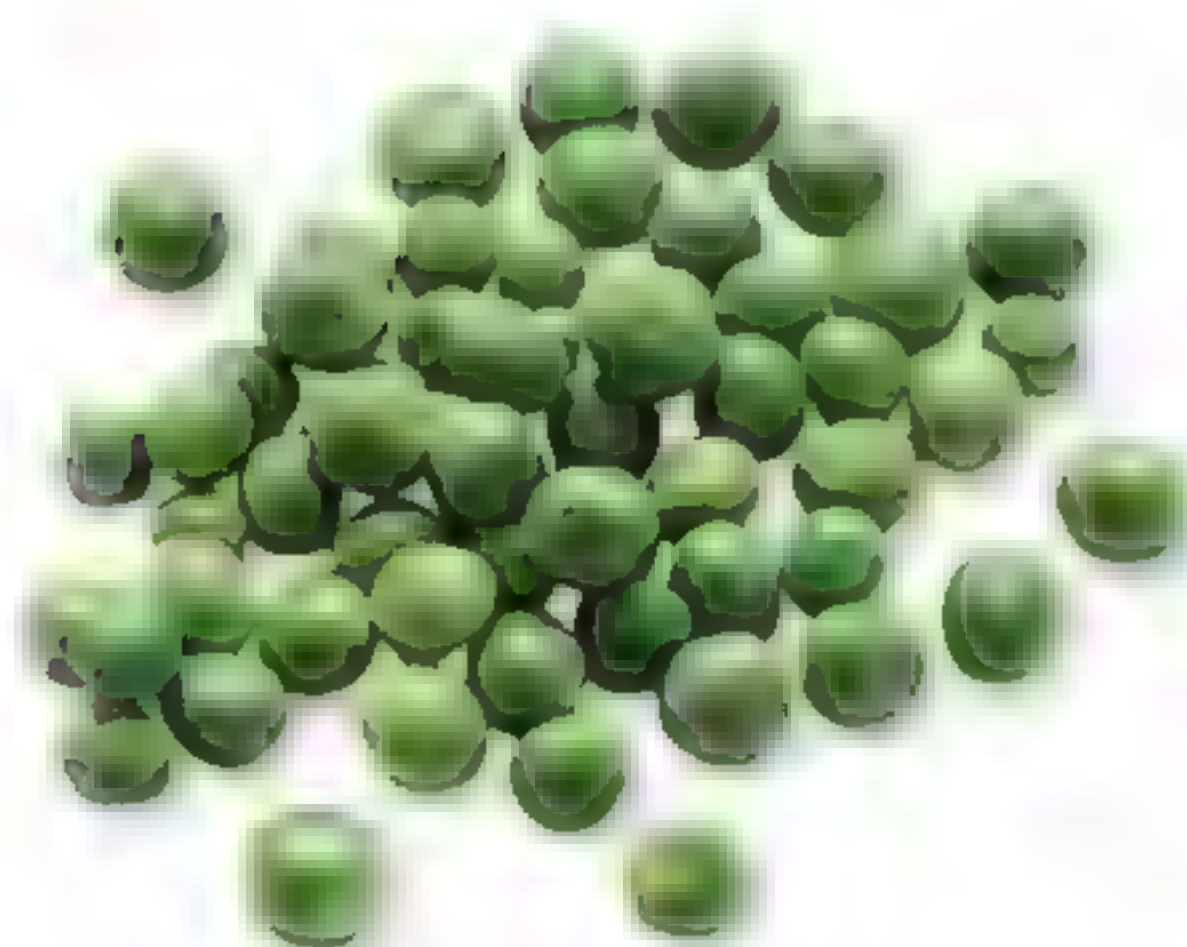
Artichoke



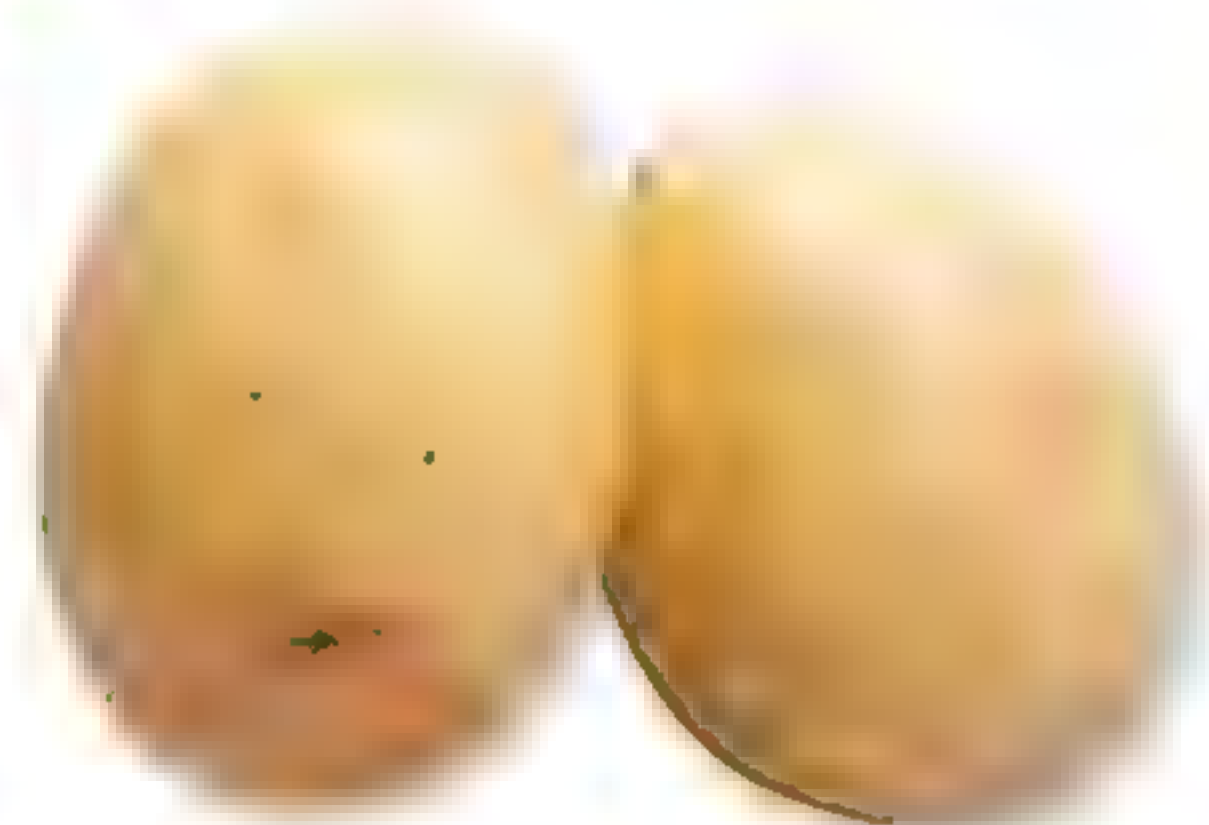
Celery



Garlic



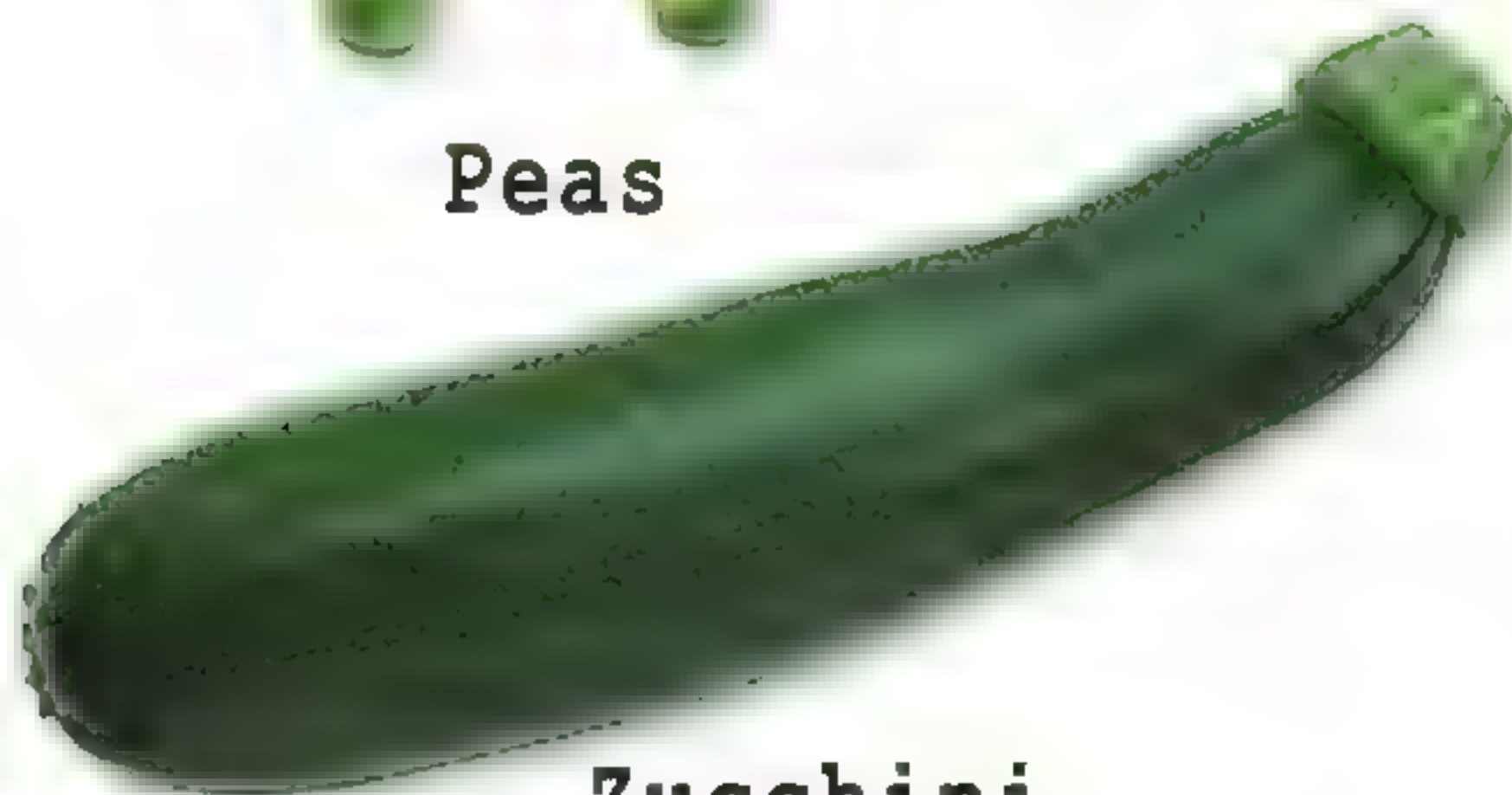
Peas



Potatoes



Asparagus



Zucchini

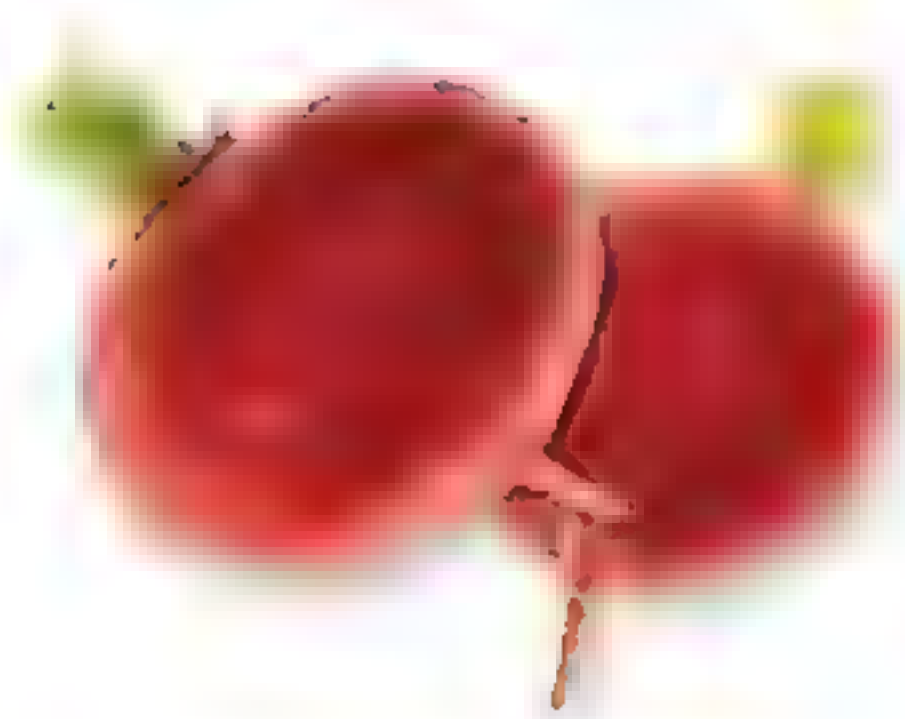


Cauliflower





Carrots



Radish



Kohlrabi



Rhubarb



Red cabbage



Sweet  
potatoes



Beets



Bell Pepper



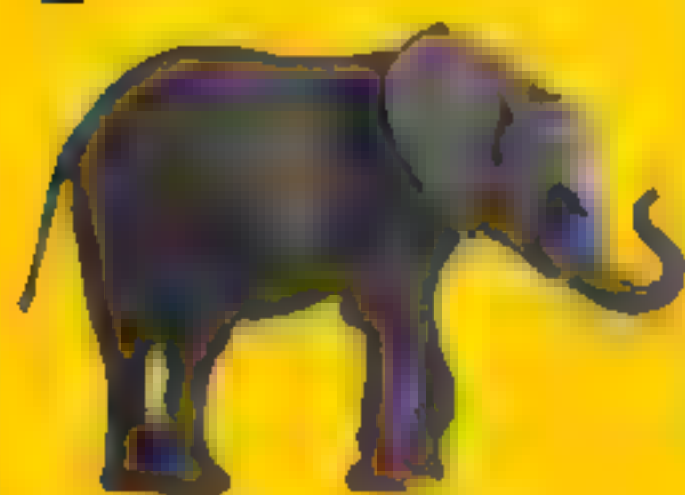
Red onion

Carrots aren't just orange. They can be purple too!



# Let's count

**1** One  
elephant



**2** Two  
giraffes



**3** Three  
penguins



**4** Four  
ponies



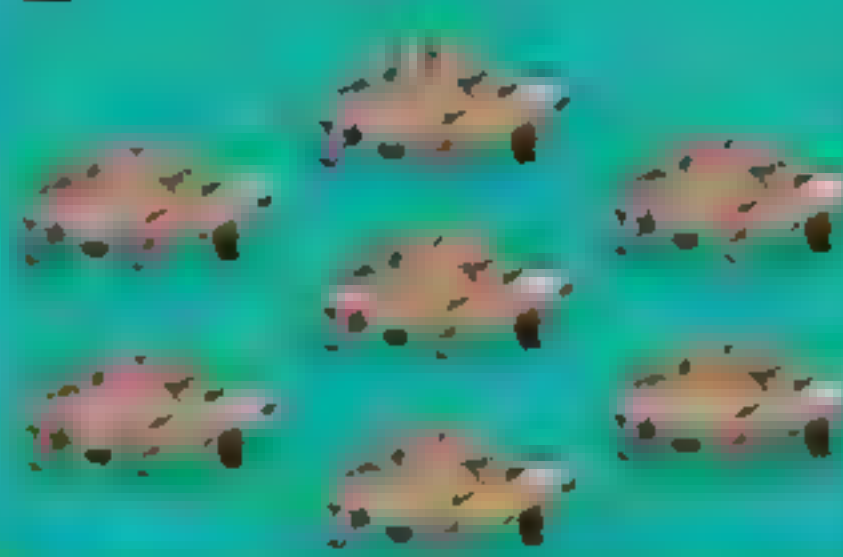
**5** Five  
mandrills



**6** Six  
parrots



**7** Seven  
tortoises



**8** Eight  
starfish



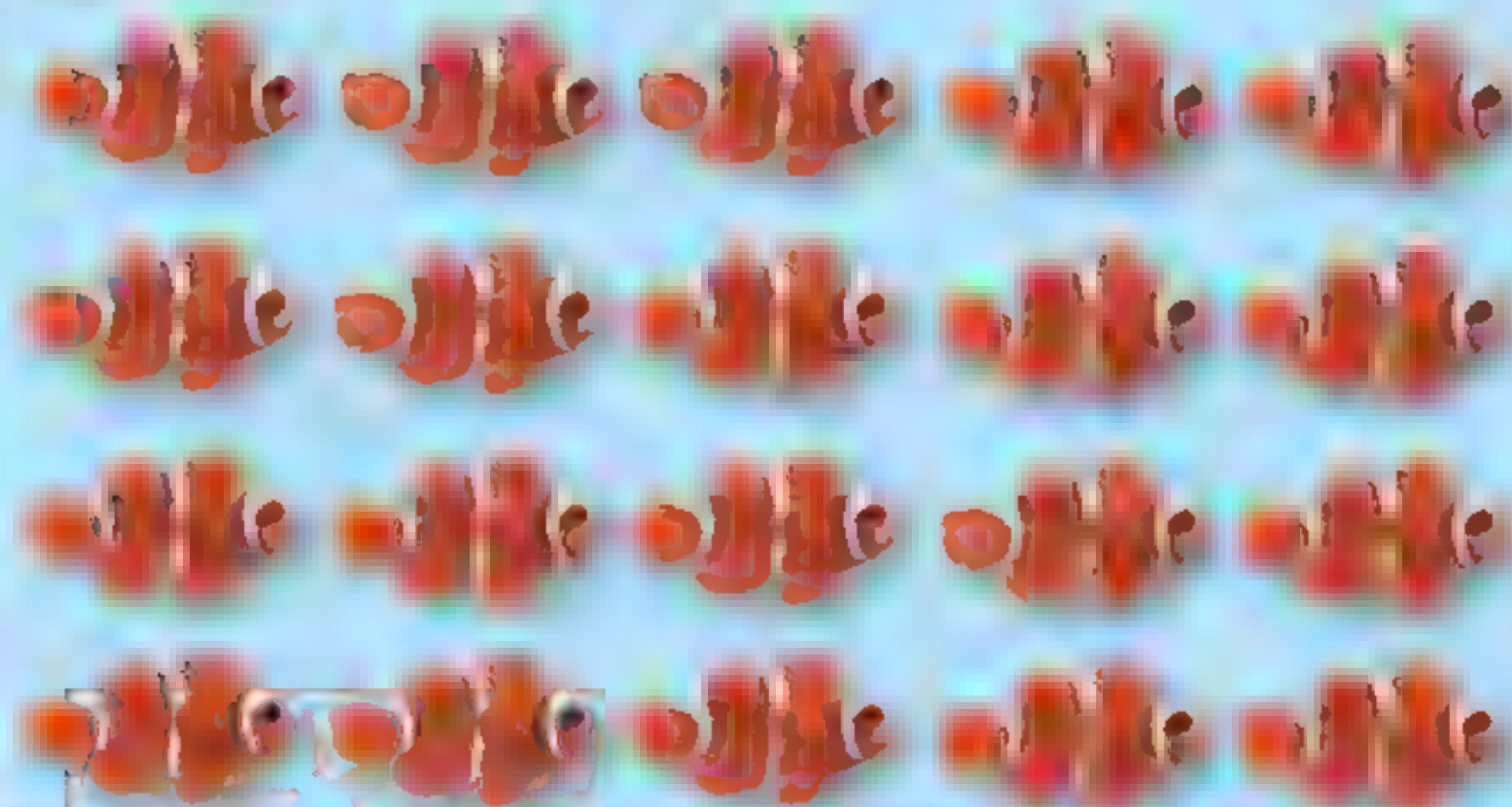
**9** Nine  
butterflies



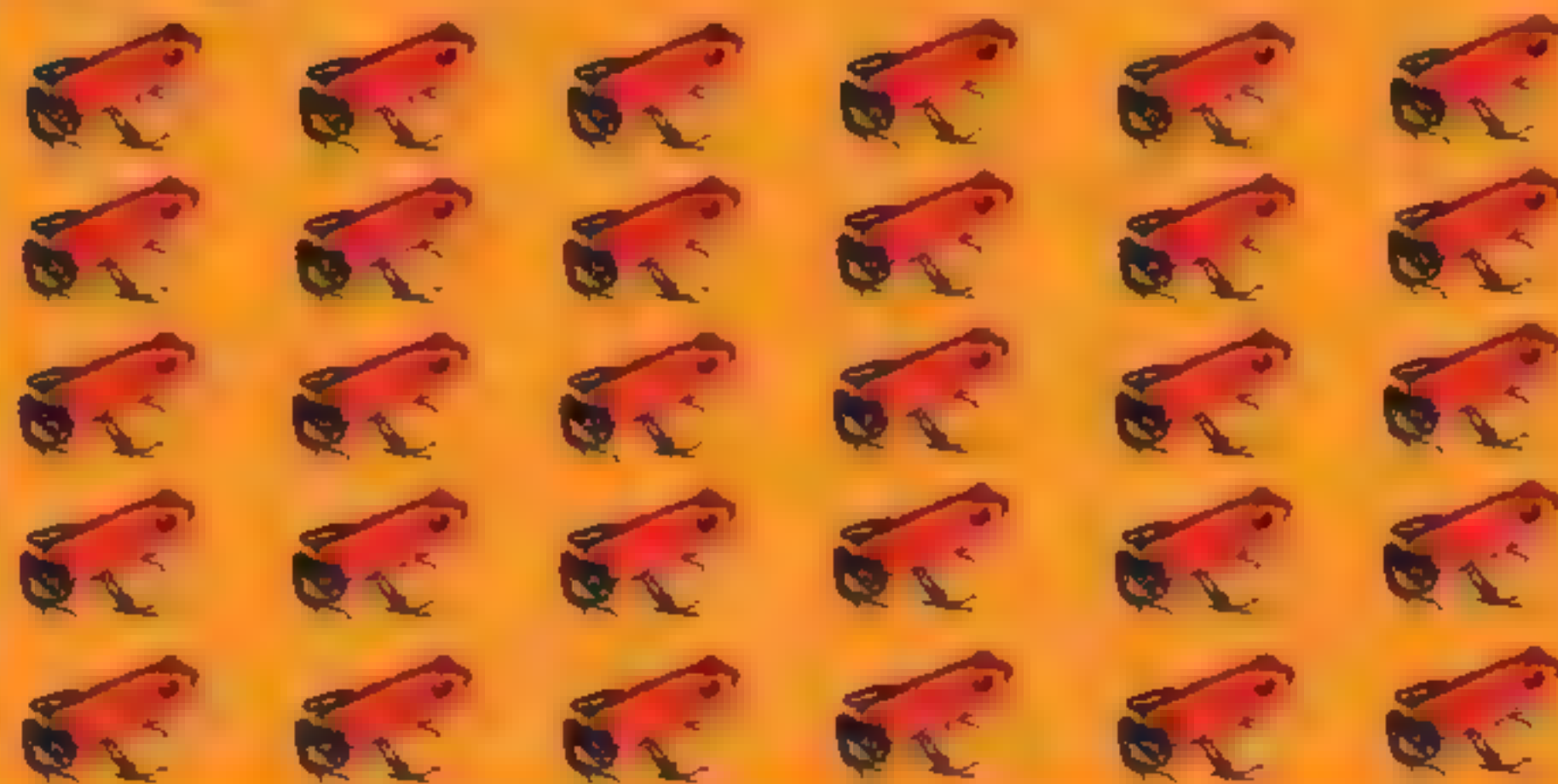
**10** Ten  
rabbits



**20** Twenty  
fish



**30** Thirty  
frogs





# 50 Fifty ladybugs



We've got  
lots of spots!

# 100 One hundred ants





# Let's multiply

Adding up lots of the same number is much **easier** and **quicker** when you use multiplication.

Say you have 4 lots of 2 buttons, that's...

Count them  
and see for  
yourself!

1 lot

2 lots

3 lots

4 lots



$$4 \times 2 = 8 \text{ buttons}$$

Now try finding the  
answer for these sums  
using the table.

$$2 \times 3 = ?$$

$$8 \times 9 = ?$$

$$4 \times 6 = ?$$

$$7 \times 5 = ?$$

## Using the grid

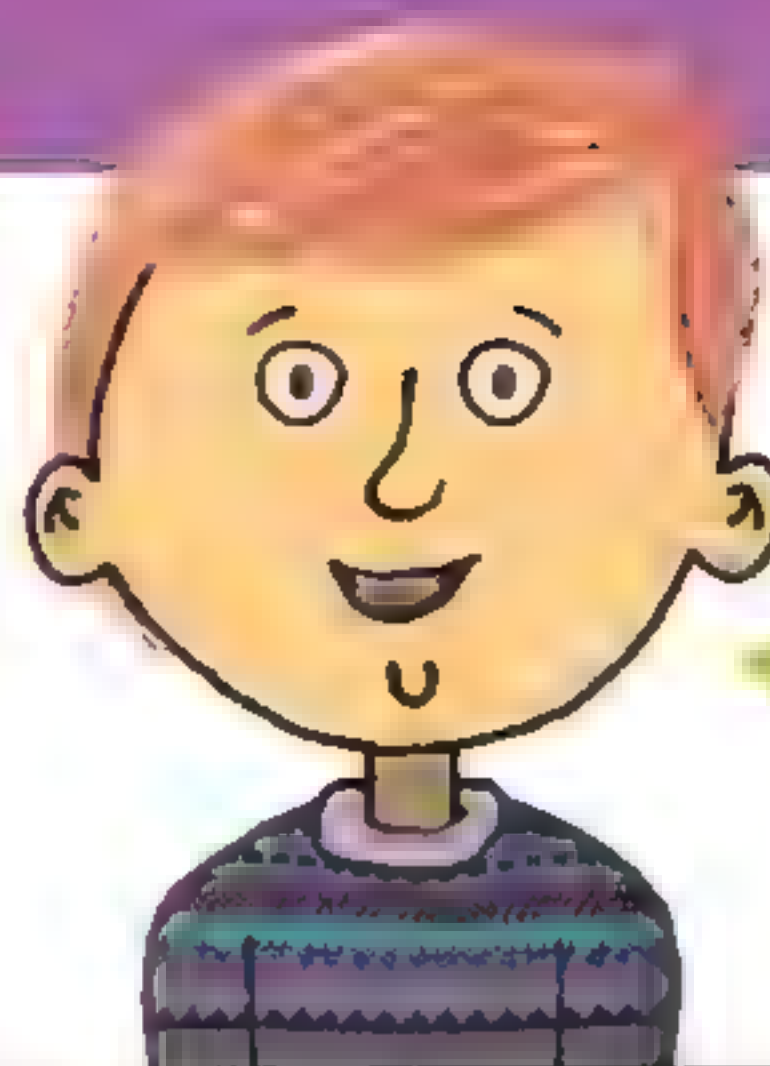
For "2 x 3", put a finger on the big number "2" and slide it along the line until your finger lines up with the big number "3". Where they meet (6) is your answer!

It doesn't matter  
what order you do  
it in, the result  
will be the same.



## Cheat sheet

This handy table lets you see what two numbers become when multiplied together without having to work it out.



The numbers in white are numbers multiplied by themselves!

	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100



# Measurements

Figuring things out, from how tall we are to how fast we can run, wouldn't be possible without using measurements.

In some countries you would say I am 120cm tall, but in others you would say I'm 4 feet tall!



## Measuring size

## Measuring weight

### Metric

Millimeters (mm)  
Centimeters (cm)  
Meters (m)  
Kilometers (km)

### Metric

Milligrams (mg)  
Grams (g)  
Kilograms (kg)

### Imperial

Inches (in)  
Feet (ft)  
Yards (yd)  
Miles (mi)

### Imperial

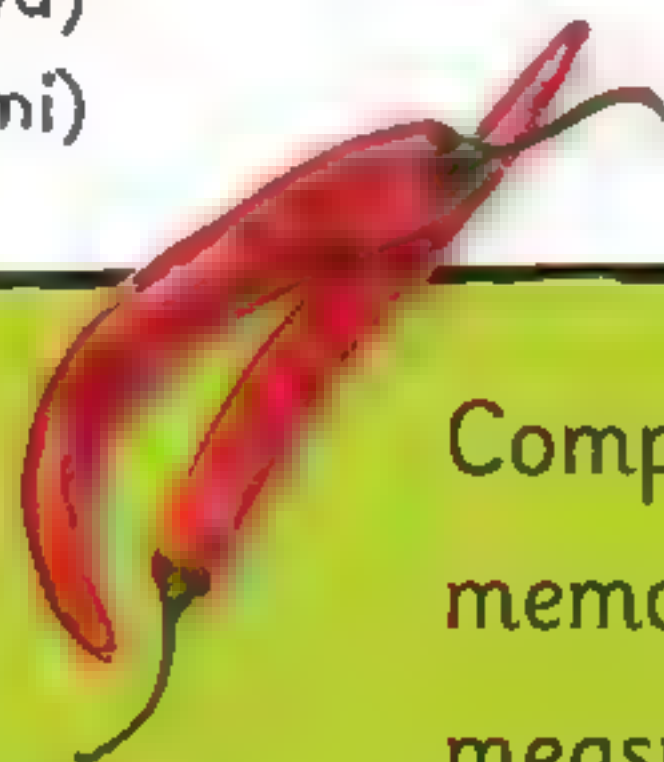
Ounces (oz)  
Pounds (lb)  
Tons (T)

## Other measures

Certain things have a special measurement that's only used for them.

The spicy heat of chili peppers is measured in **scovilles**.

Computer memory is measured with a system called **bytes**.





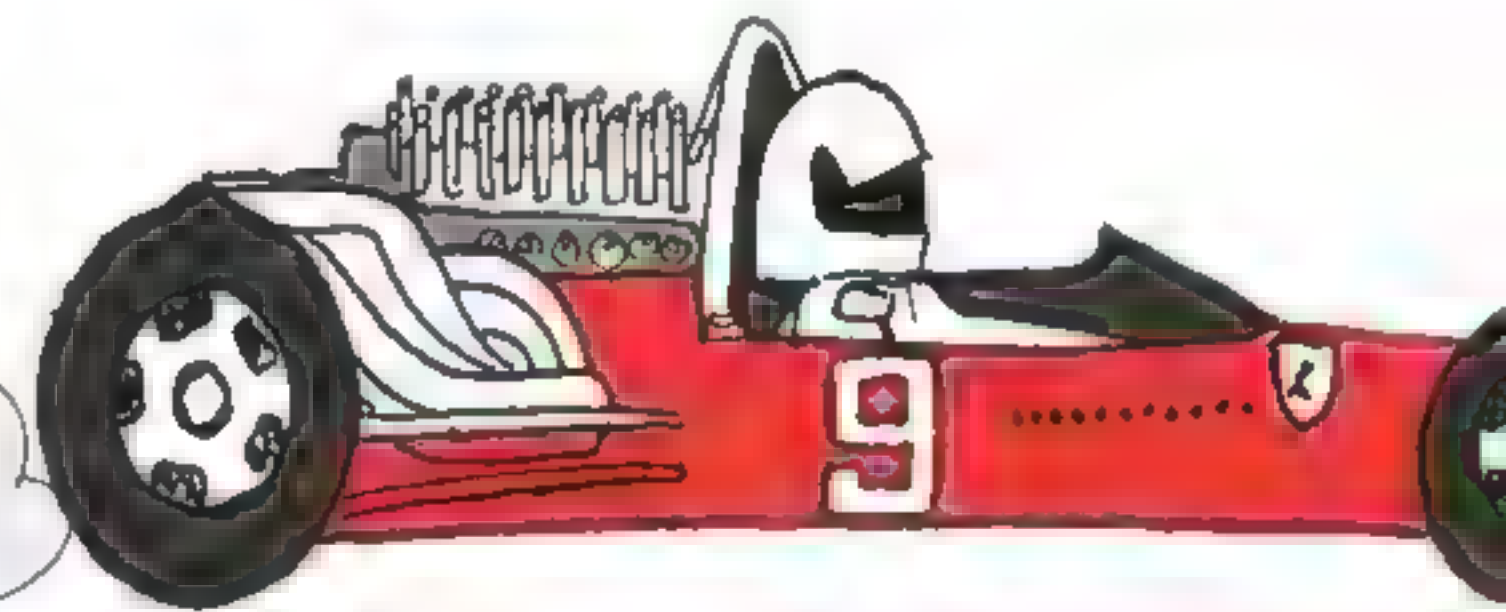
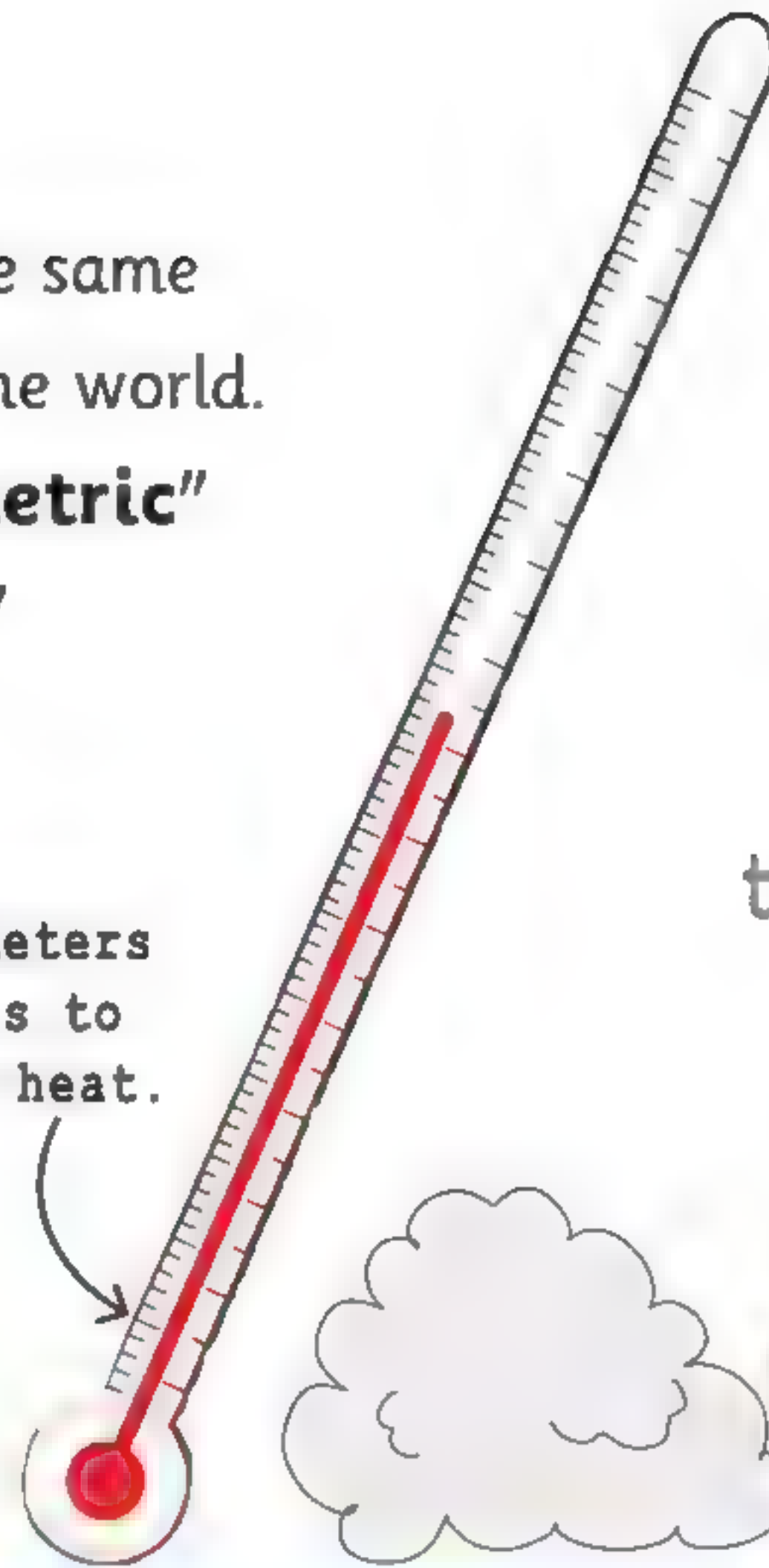
## Measuring methods

There are different ways to measure the same thing depending on where you live in the world. Some countries use a system called "**metric**" and others use one called "**imperial**."

Kph and mph are worked out by seeing how far something can travel in an hour.



Thermometers help us to measure heat.



### Measuring liquid

#### Metric

Milliliters (ml)

Liters (l)

Kiloliters (kl)

#### Imperial

Fluid ounces (fl oz)

Cups (c)

Pints (pt)

Gallons (gal)

### Measuring heat

#### Metric

Celsius (°C)

#### Imperial

Fahrenheit (°F)

### Measuring speed

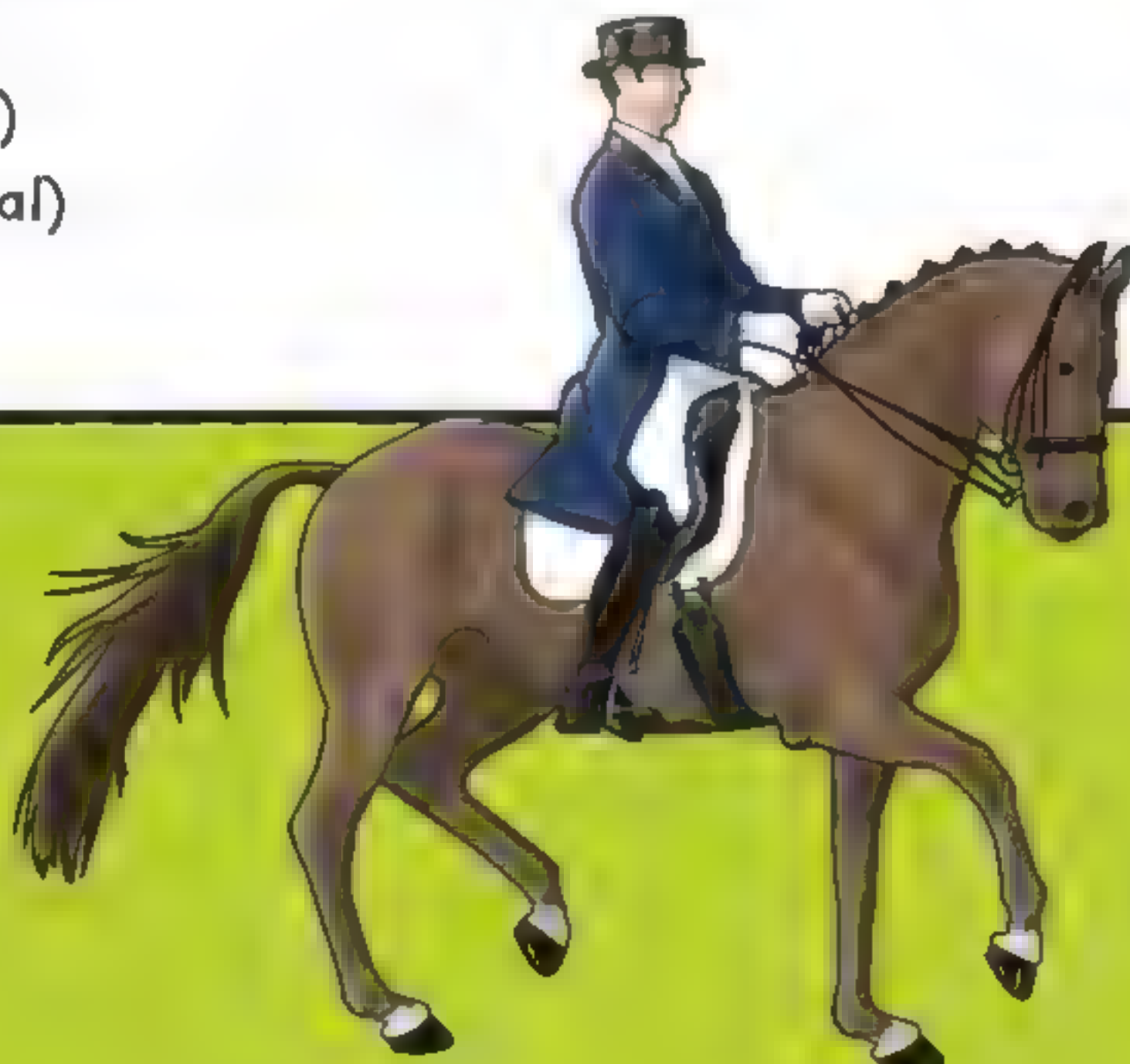
#### Metric

Kilometers per hour (kph)

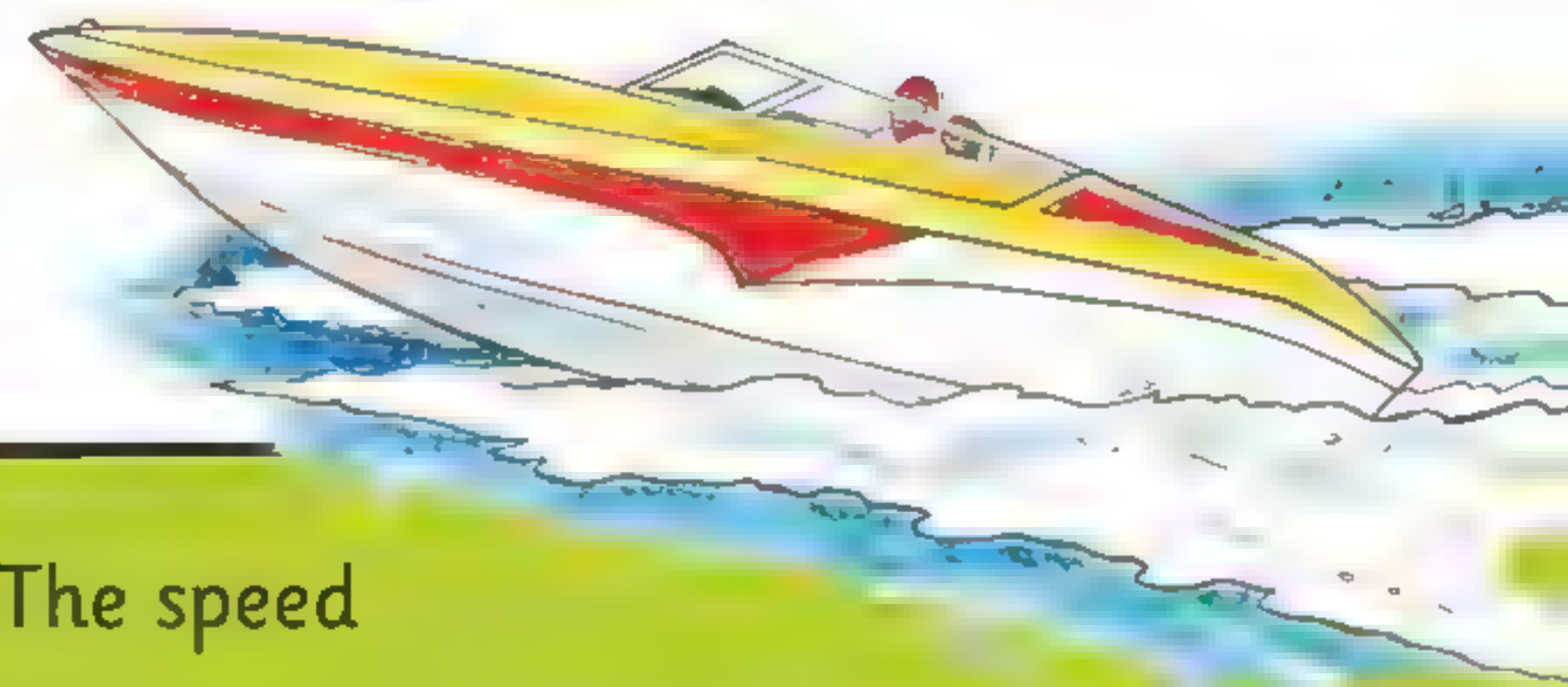
#### Imperial

Miles per hour (mph)

You use **hands** to work out how tall a horse is.



The speed that a boat travels at is measured in **knots**.





# Star signs

Every person has a **star sign** with a special symbol. Your sign depends on where the sun was in the sky on the day you were born.

There are twelve different signs, which are also part of four special groups.

Aries



March 21—  
April 19  
(The Ram)

Taurus



April 20—  
May 20  
(The Bull)

Gemini



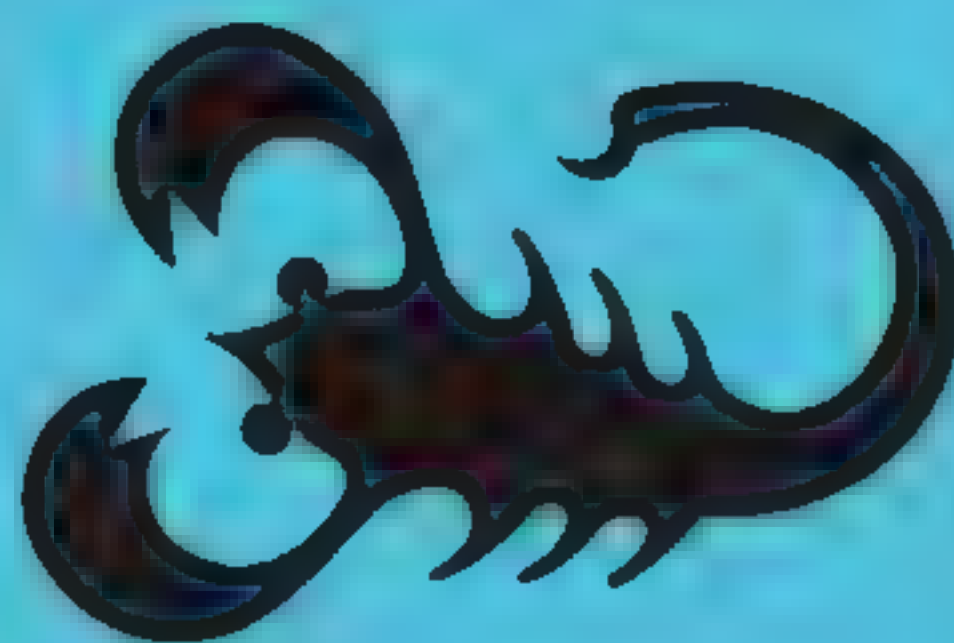
May 21—  
June 21  
(The Twins)

Libra



September 23—  
October 23  
(The Scales)

Scorpio



October 24—  
November 21  
(The Scorpion)

Sagittarius



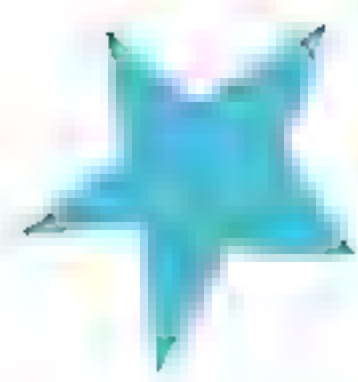
November 22—  
December 21  
(The Archer)





### Air signs

Often curious, people born under air signs are good at making friends.



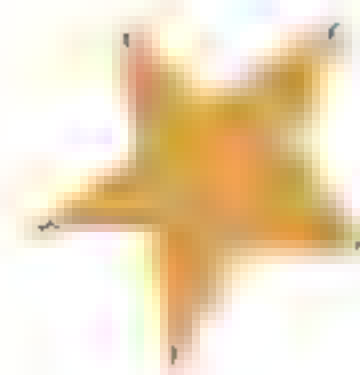
### Water signs

These people are said to be sensitive and good at understanding people.



### Fire signs

People born under fire signs are thought to be smart and strong.



### Earth signs

Politeness and getting along with others are these sign's main traits.

## Cancer



June 22—  
July 22  
(The Crab)

## Leo



July 23—  
August 22  
(The Lion)

## Virgo



August 23—  
September 22  
(The Maiden)

## Capricorn



December 22—  
January 19  
(The Goat)

## Aquarius



January 20—  
February 18  
(The Water Bearer)

## Pisces



February 19—  
March 20  
(The Fish)



# Chinese horoscopes

Every New Year in China, one of **12 animals** is celebrated. It becomes that year's special animal and the **sign** of all the babies born that year.

## Rat



1984, 1996, 2008, 2020

Clever, funny, kind,  
and confident.

## Ox



1985, 1997, 2009, 2021

Hard-working,  
smart, and honest.

## Tiger



1986, 1998, 2010, 2022

Brave, strong, and  
fiercely independent.

## Horse



1990, 2002, 2014, 2026

Full of energy, kind,  
and happy.

## Goat



1991, 2003, 2015, 2027

Creative, gentle,  
honest, and dreamy.

## Monkey



1992, 2004, 2016, 2028

Playful, funny,  
and clever.



## Animal personalities

Some people believe your animal sign influences your personality. Find the **year of your birth** on the chart to see if the animal sounds like you.

The Chinese New Year festival is in either January or February when the New Moon appears in the sky. The celebrations can last for days!

### Rabbit



**1987, 1999, 2011, 2023**

Gentle, kind, clever,  
and patient.

### Dragon



**1988, 2000, 2012, 2024**

Powerful, confident,  
and very lucky.

### Snake



**1989, 2001, 2013, 2025**

Calm, chatty, wise,  
and thoughtful.

### Rooster



**1993, 2005, 2017, 2029**

Honest, confident,  
and observant.

### Dog



**1994, 2006, 2018, 2030**

Friendly, happy,  
loyal, and brave.

### Pig



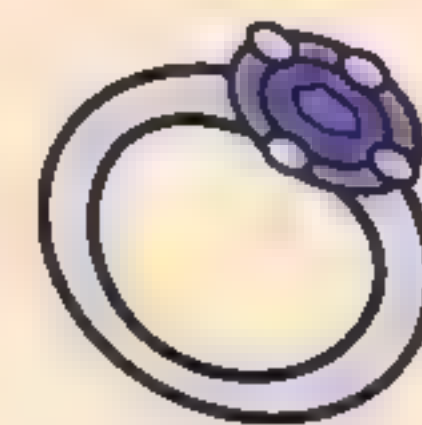
**1995, 2007, 2019, 2031**

Smart, generous,  
polite, and kind.

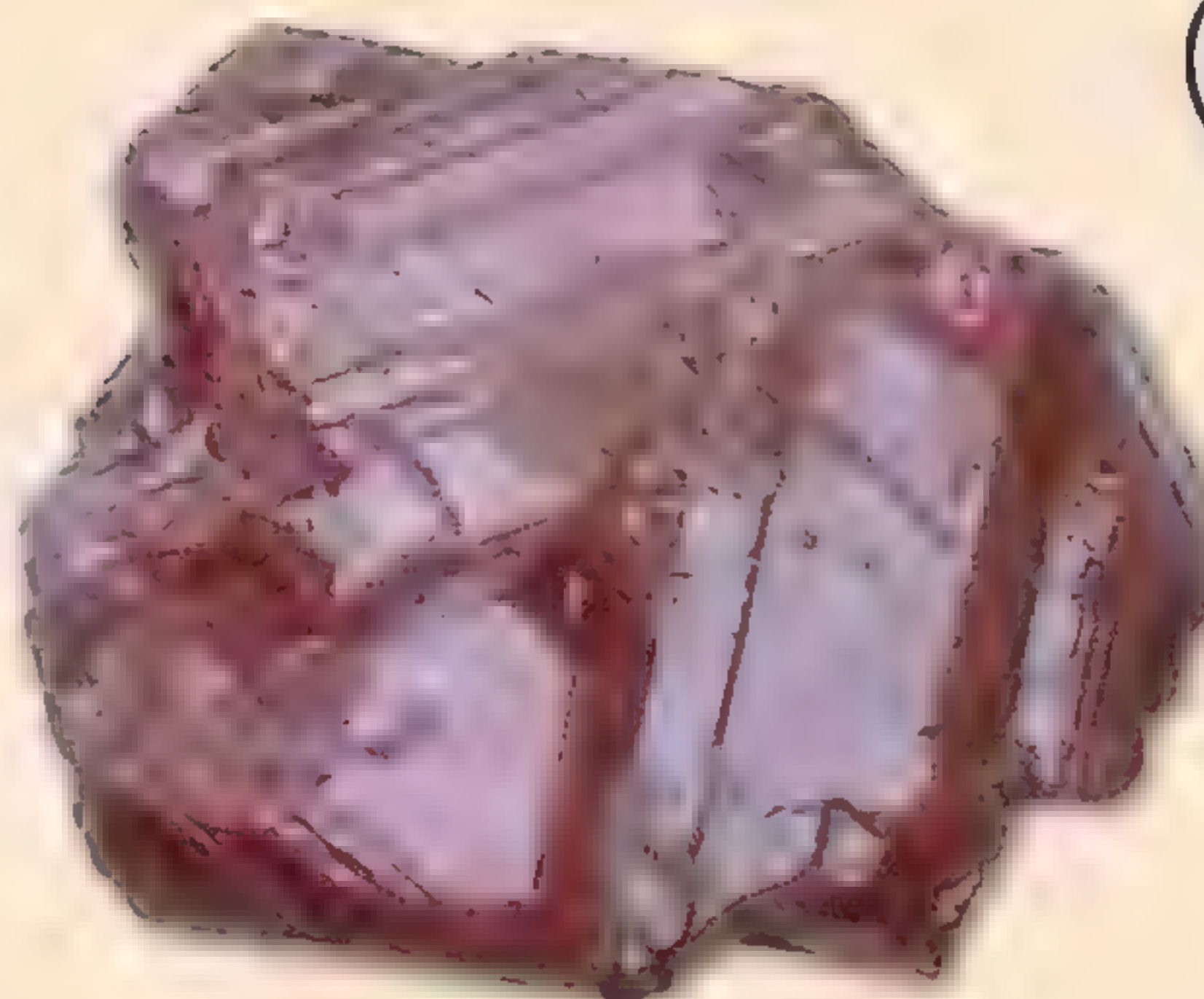


# Precious gems

Beautiful and rare, gemstones come from rocks within the Earth, but it takes lots of time and effort to make them look pretty.



This is what some  
gems look like  
before being  
**CUT, CLEANED,**  
and **SHAPED.**



Rough ruby

Cut gems sparkle  
because they have  
lots of facets  
(surfaces) that  
reflect light.



Rough diamond

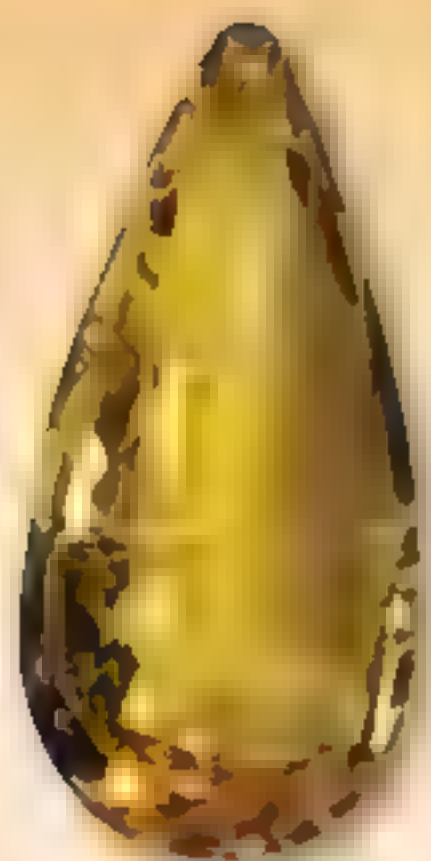


Rough emerald





Diamond



Citrine



Heliodor



Rose quartz



Topaz



Garnet



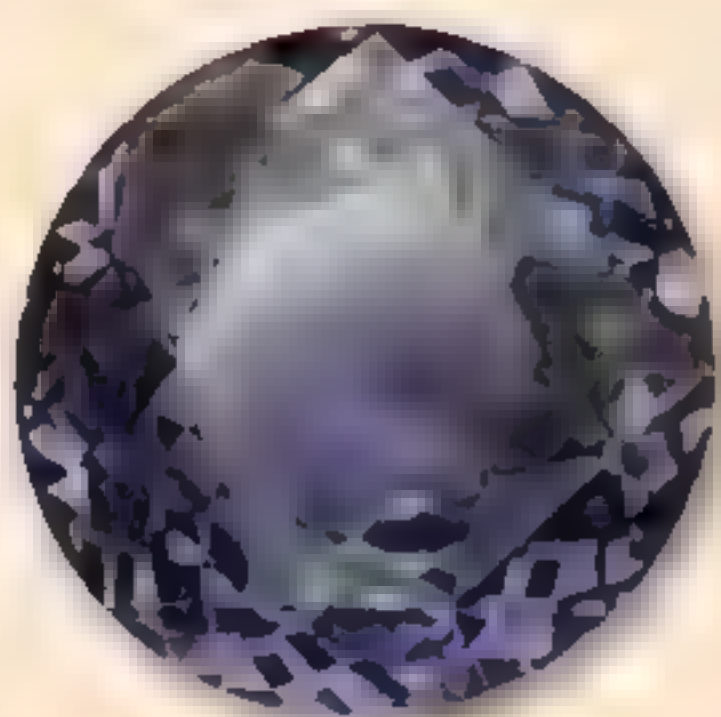
Fire opal



Ruby



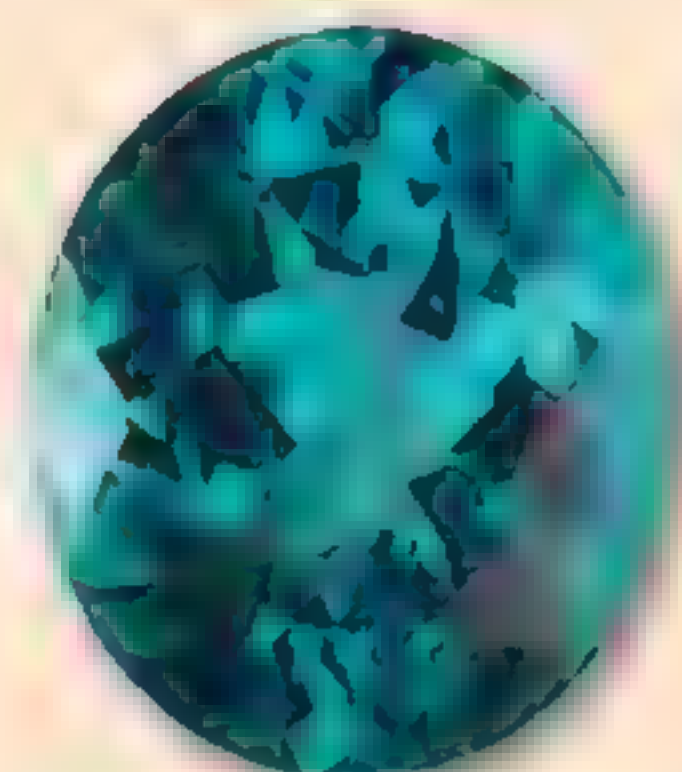
Amethyst



Spinel



Sapphire



Apatite



Peridot



Tourmaline



Emerald

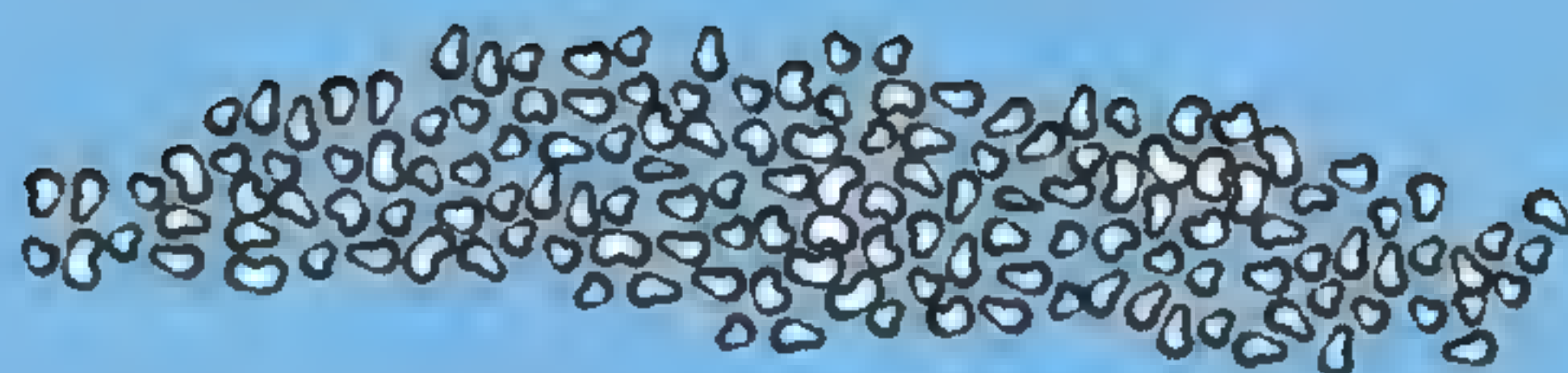


Jade



# Cool clouds

Big and puffy or long and wispy, there are lots of different types of cloud drifting through the sky.



**Cirrocumulus**  
(sir-oh-kyoo-myuh-luhs)



**Altocumulus**  
(al-toh-kyoo-myuh-luhs)



**Altostratus**  
(al-toh-strat-uhs)



**Stratocumulus**  
(strat-oh-kyoo-myuh-luhs)



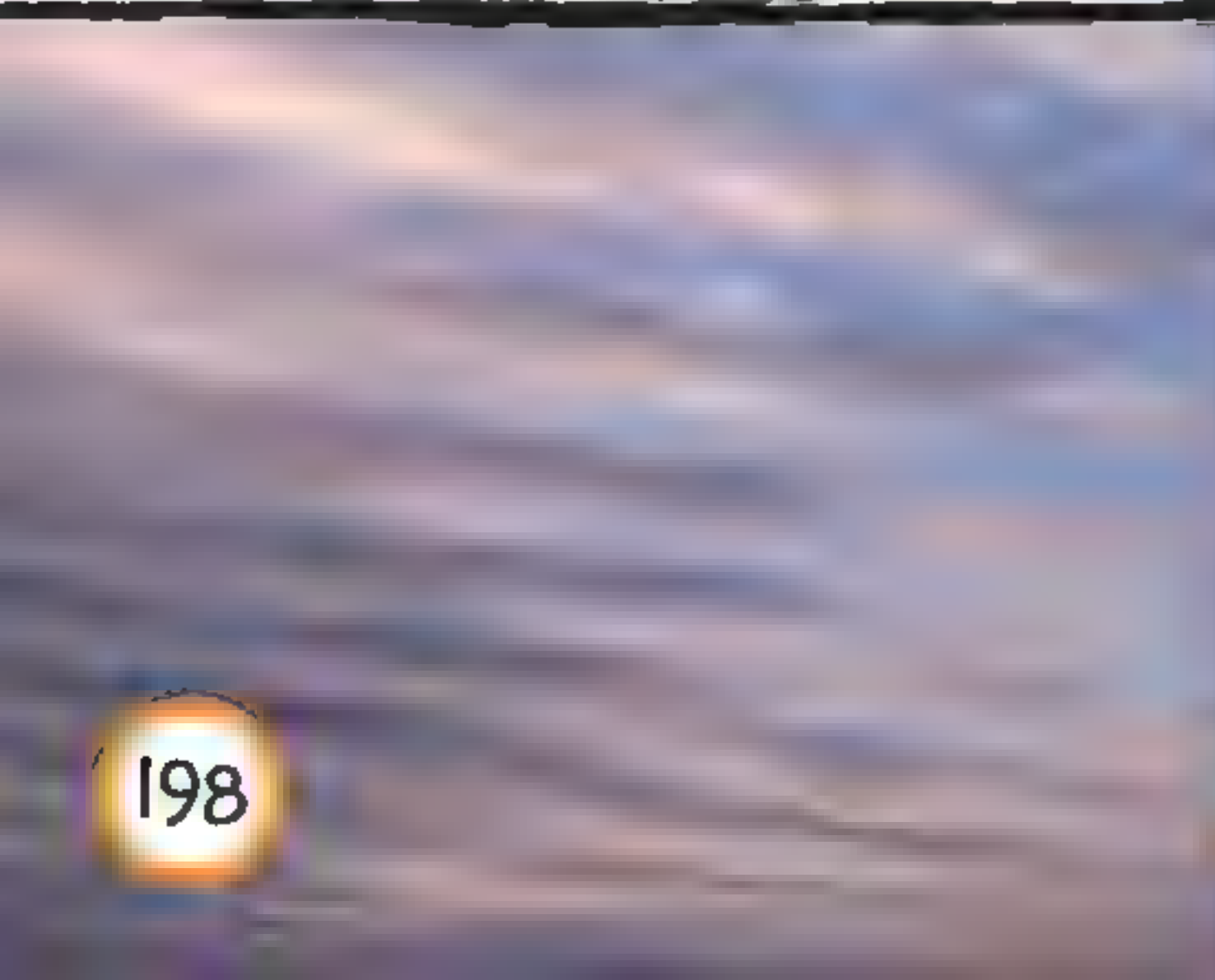
**Stratus**  
(strat-uhs)

All clouds are made of little drops of water or ice.

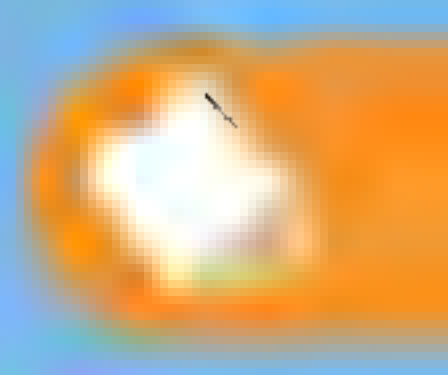
**Stratocumulus**

**Cumulonimbus**

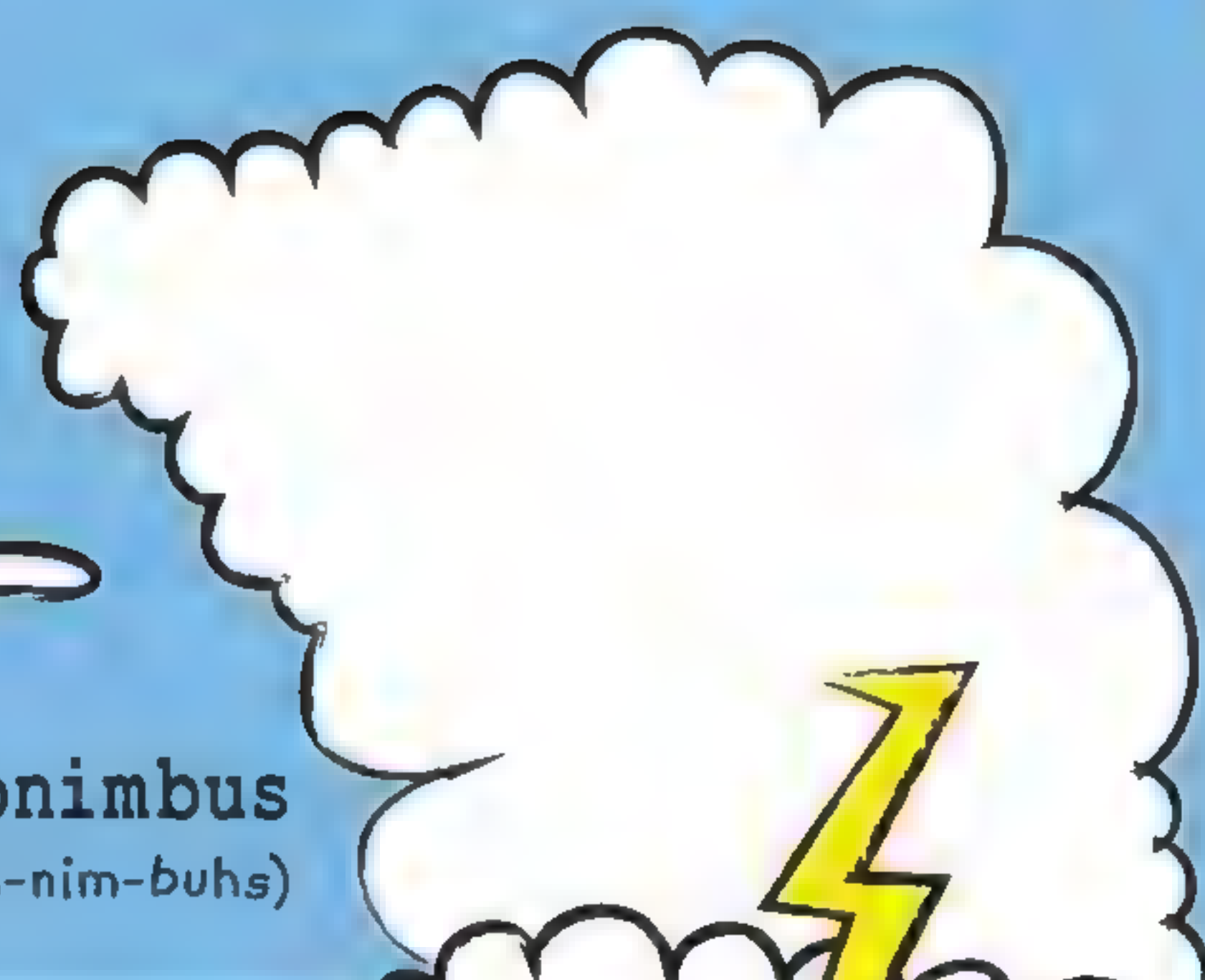
**Altocumulus**







**Cirrus**  
(sir-uhs)



**Cumulonimbus**  
(kyoo-myuh-loh-nim-buhs)

Have you ever looked  
up and seen SHAPES  
in the clouds?

Cumulonimbus  
clouds can  
bring thunder  
and lightning.



**Cumulus**  
(kyoo-myuh-luhs)



**High**  
Above 20,000ft  
(Above 6,000m)

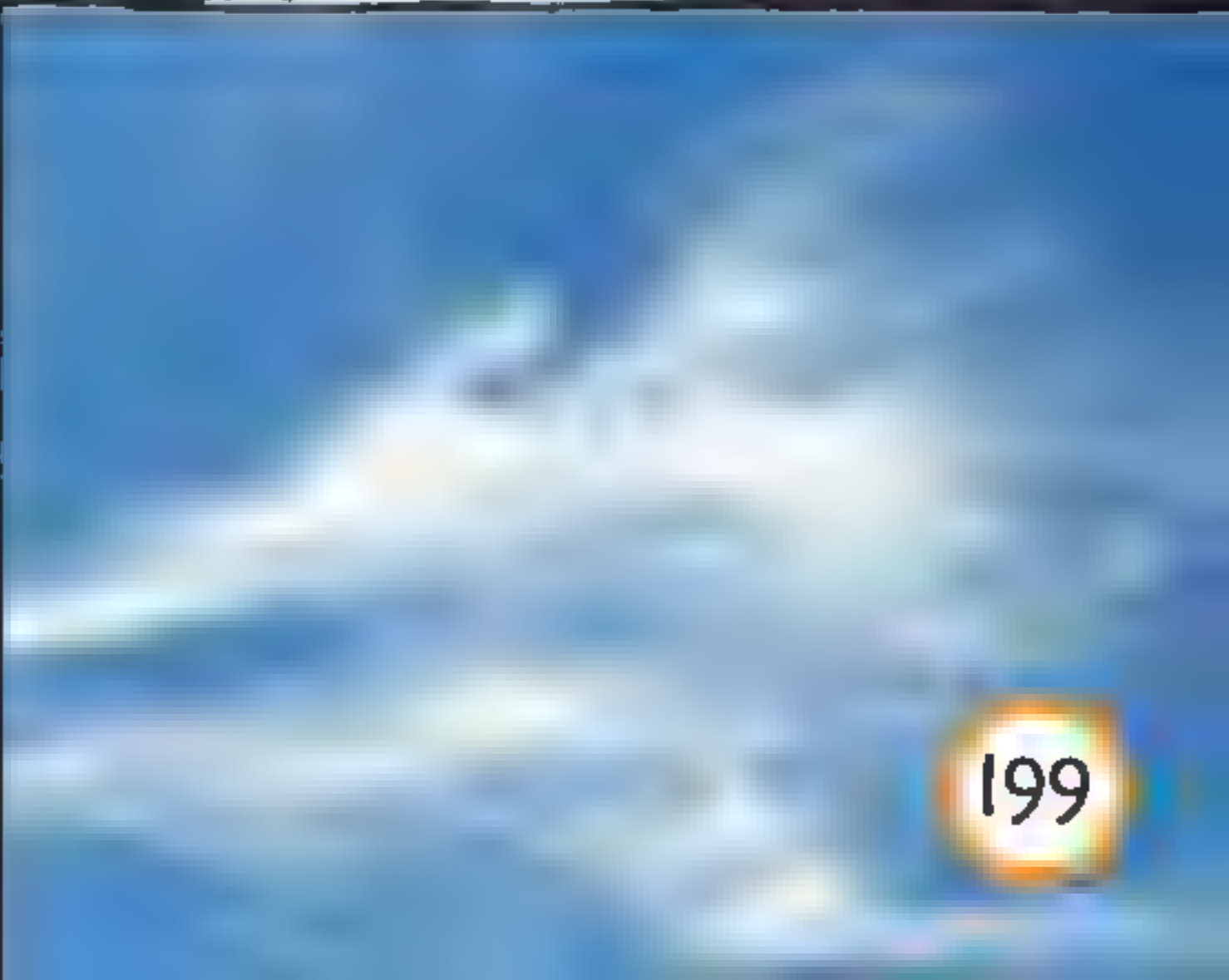
**Medium**  
6,500ft—20,000ft  
(2,000m—6,000m)

**Low**  
Below 6,500ft  
(Below 2,000m)

**Altostratus**

**Cirrocumulus**

**Cirrus**



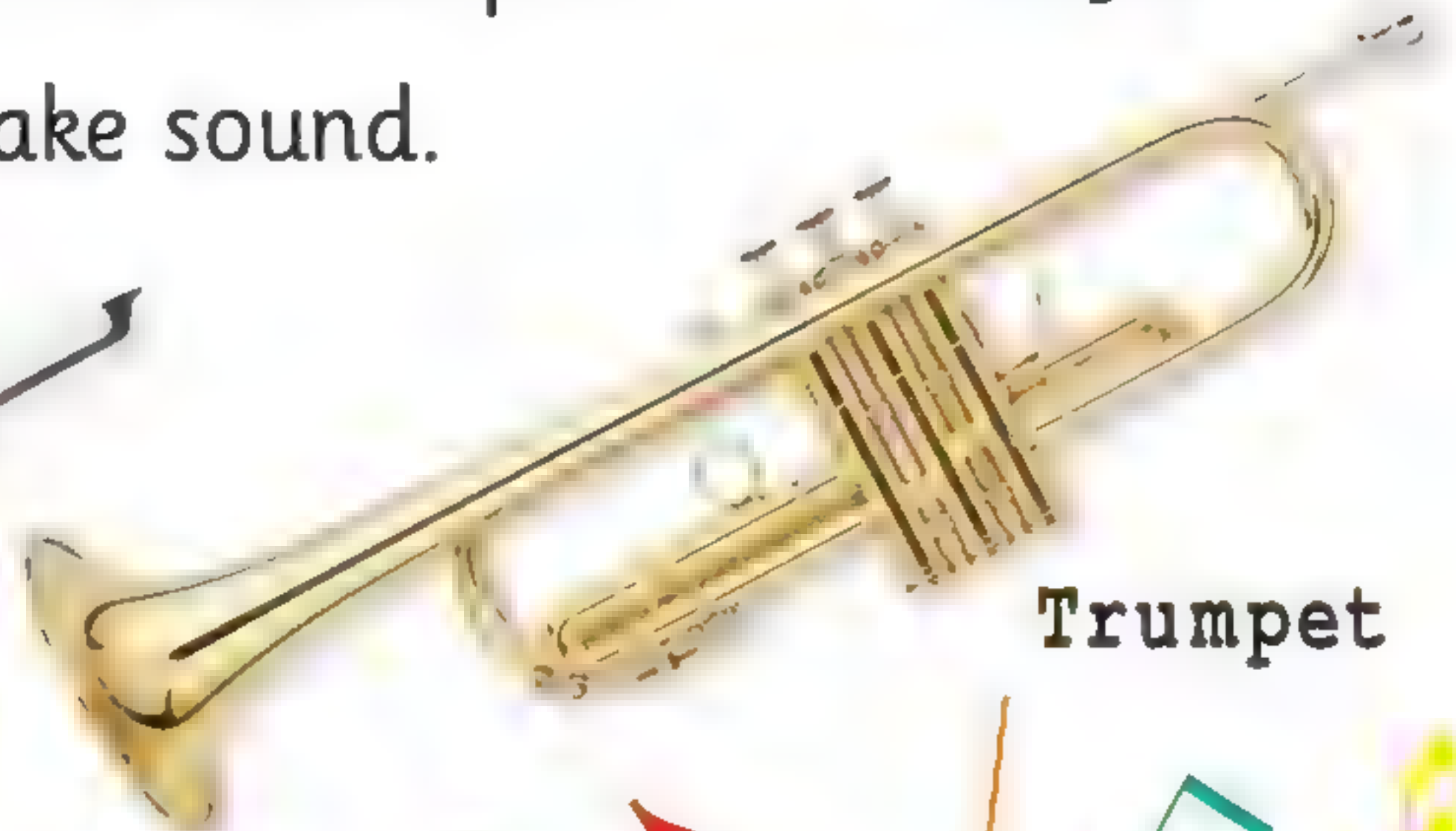


# Musical instruments

To make music you need an **instrument** (or your voice!) Instruments are sometimes put in groups based on how they make sound.



Bugle



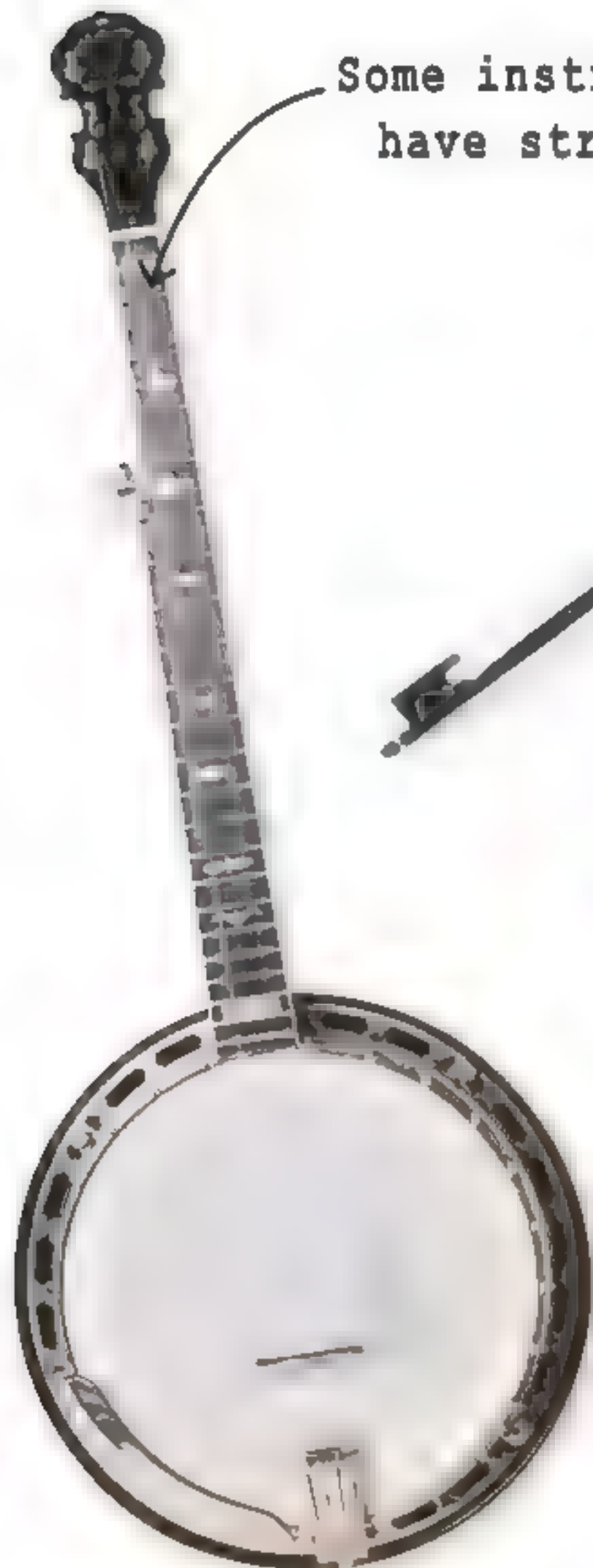
Trumpet



Tuba



Violin



Banjo



Ukulele

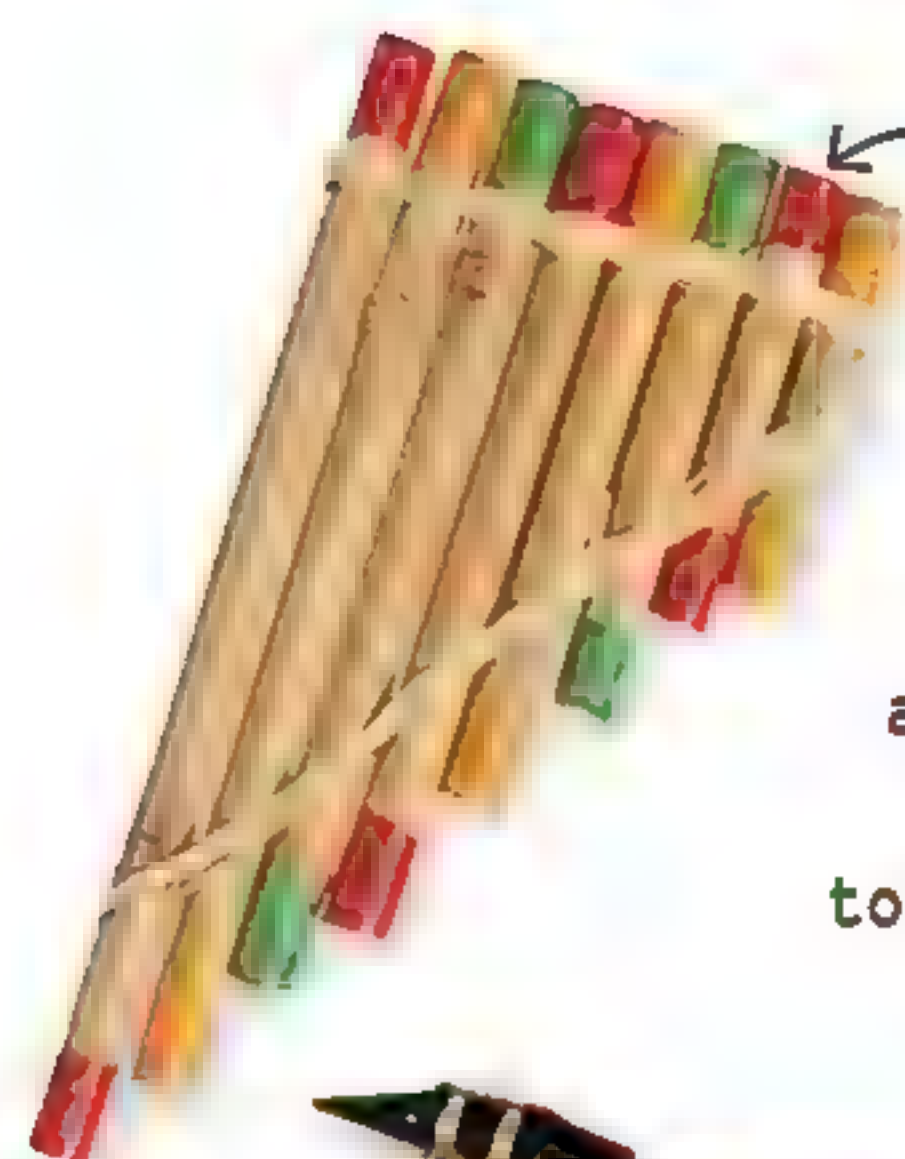
Some instruments  
have strings.

String

Brass



Pan flute



You blow  
into brass  
and woodwind  
instruments  
to make sounds.

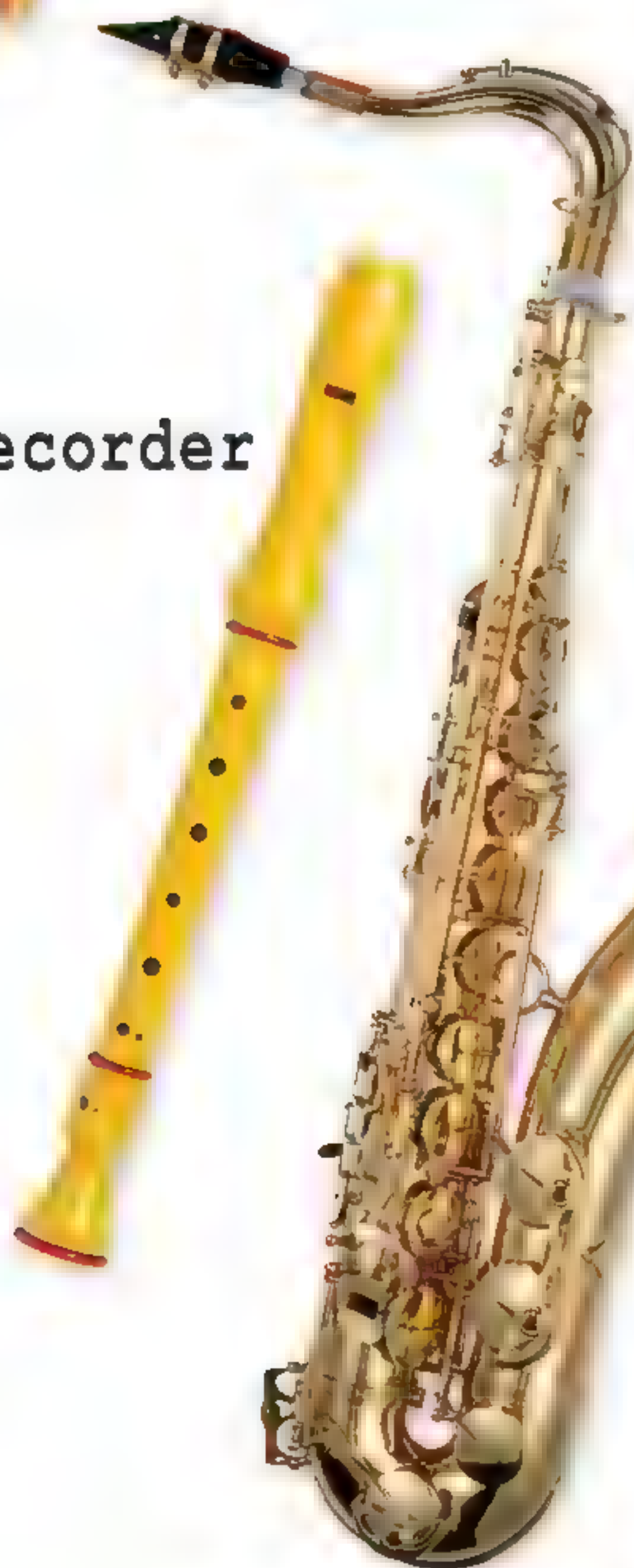


Drum



Electric  
keyboard

Recorder



Saxophone



Cymbals



Accordion



Tambourine



Piano

Woodwind

Percussion

Keyboard



# Working vehicles

Our roads, fields, and building sites are full of vehicles, but one of these might be needed if there's a special job to do.



Recycling  
truck



Crane

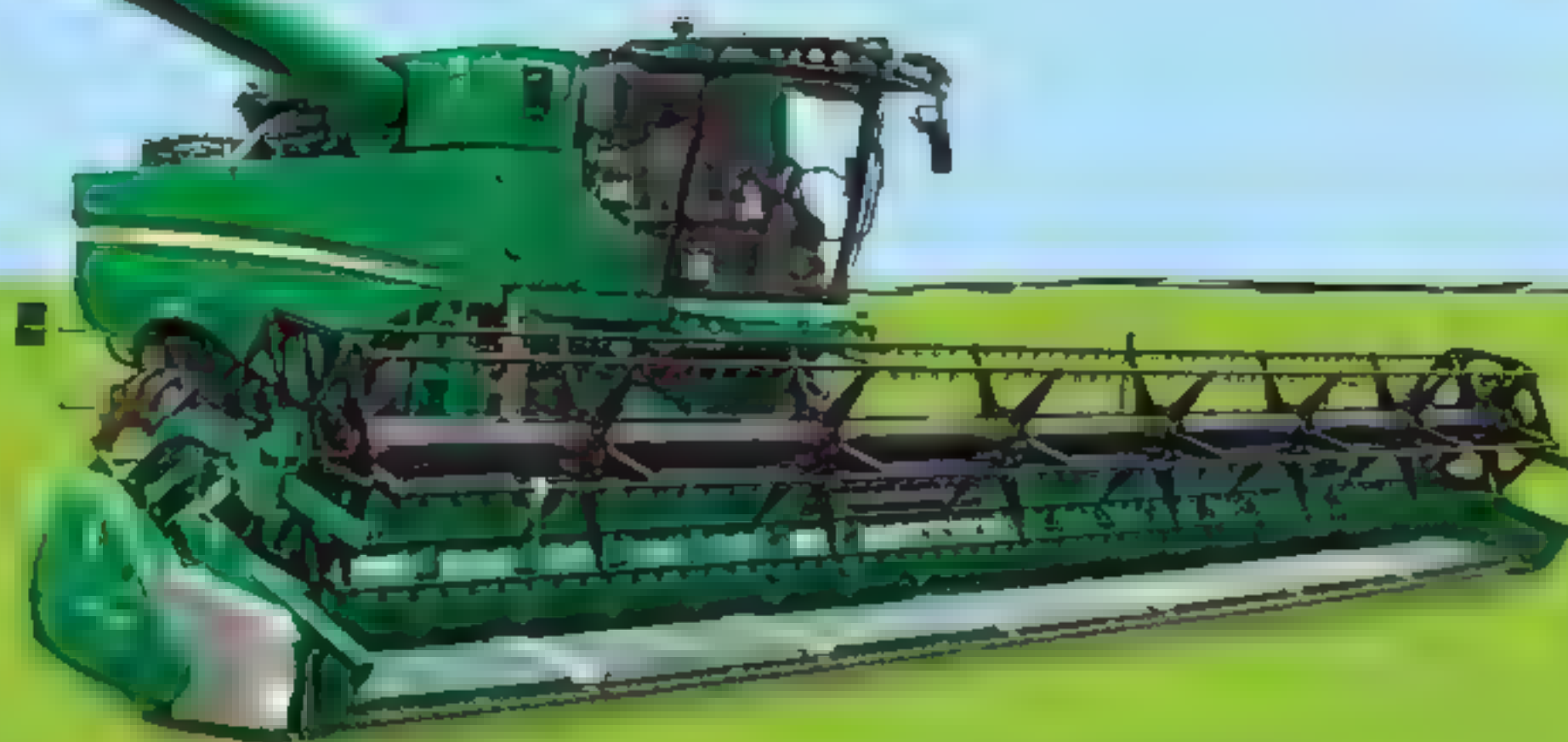
Cranes are used  
to build things.



ATV



Harvester



Ambulance



Ambulances take  
sick people  
to the hospital.

Police car



Fire engine



Dump truck



Bulldozer





# Beetle box

Found in a huge variety of colors, shapes, and sizes, beetles are some of the prettiest and most colorful creatures on Earth.

There are more than 350,000 different types of beetle.



Hercules beetle



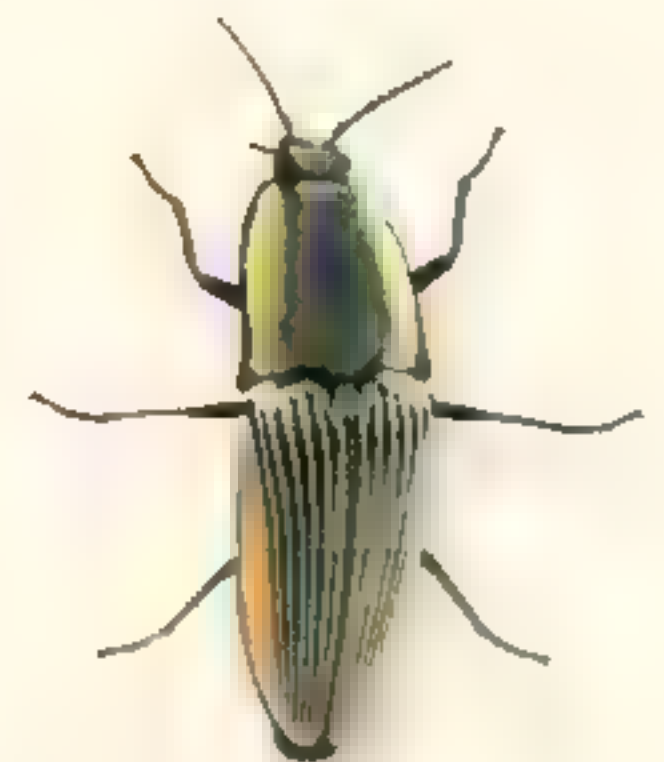
Goliath beetle



Longhorn beetle



Stag beetle

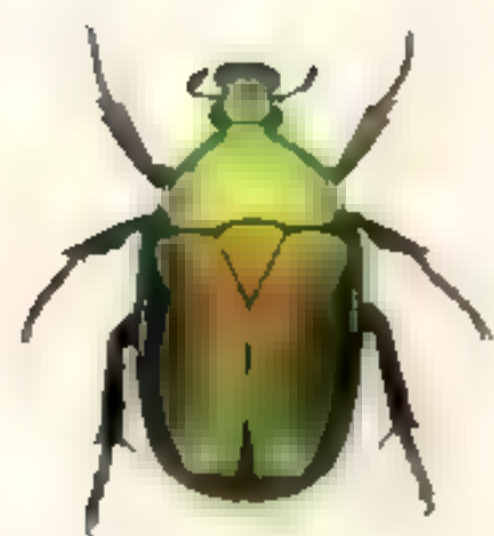


Click beetle





Giraffe weevil



June bug



Scarab beetle

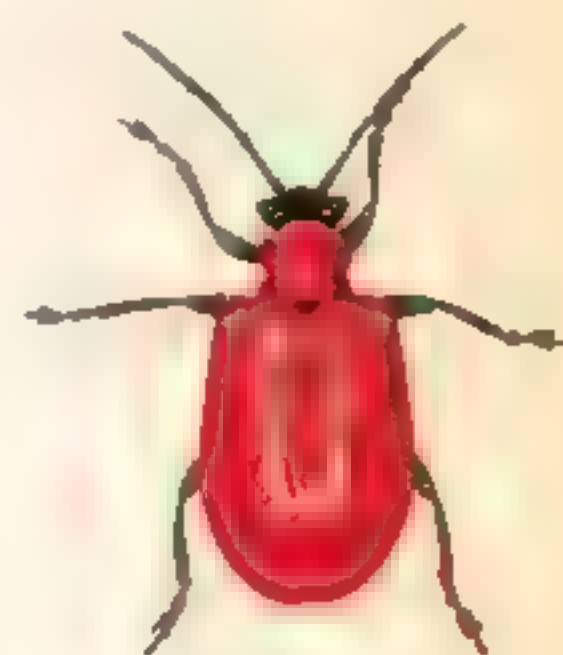
Did you know that most beetles have two pairs of wings?



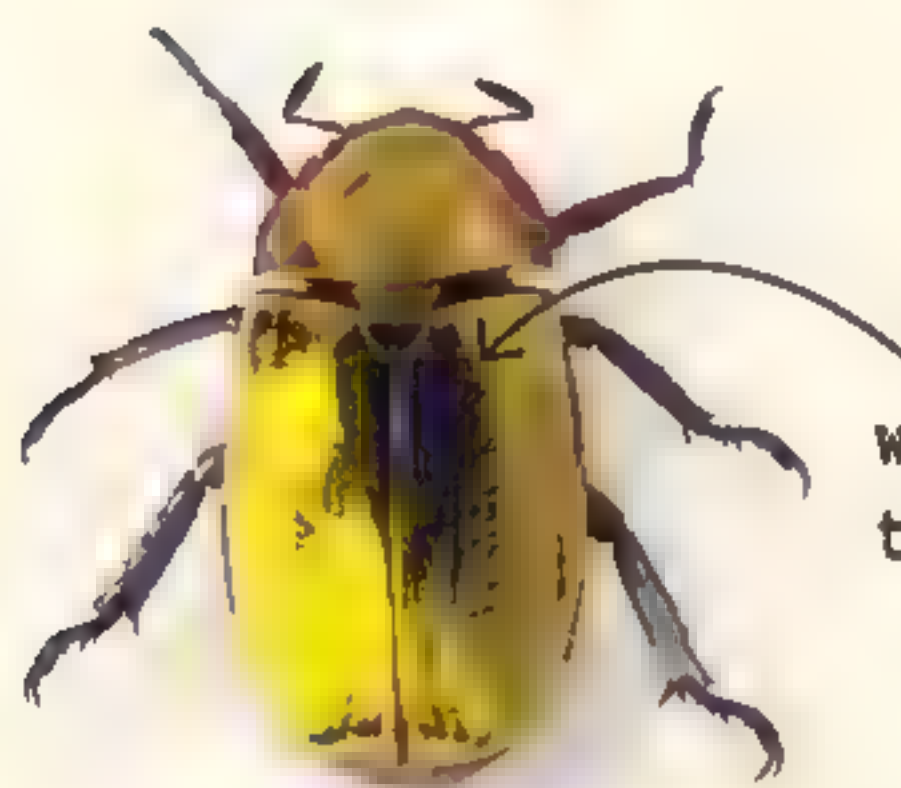
Hairy jewel beetle



Ladybug



Scarlet lily beetle



Gold beetle

Hard outer wings protect the pair they fly with.



Tortoise beetle



Jewel weevil



Violin beetle



Firefly




Namib desert beetle




# Discover dinosaurs


Here are some of the remarkable reptiles that walked the Earth millions of years ago.

A brown and orange Spinosaurus with a large, bony sail on its back, standing on a yellowish ground with small rocks.


**Spinosaurus**  
(SPINE-oh-SORE-us)

A brown and orange Iguanodon with a long neck and a small crest on its head, standing on a yellowish ground.


**Iguanodon**  
(ig-GWAH-no-don)

A green Tyrannosaurus with a large head and sharp teeth, standing on a yellowish ground.

Big horns were probably used for fighting other dinosaurs.

A green Tyrannosaurus with a large head and sharp teeth, standing on a yellowish ground.

**Tyrannosaurus**  
(TIE-ran-oh-SORE-us)

A green Einiosaurus with a large, bony frill and two long, curved horns, standing on a yellowish ground.

My name is  
**Einiosaurus**  
(ie-nee-o-SORE-uss)





**Barosaurus**  
(BAH-roe-SORE-us)



**Diplodocus**  
(dip-LOD-oh-kuss)

**Pachycephalosaurus**  
(PACK-ee-sef-ah-low-SORE-us)



This giant was almost as long as three buses!

Scientists think the  
Dreadnoughtus is one of  
the biggest land animals  
to have ever lived.



**Dreadnoughtus**  
(dread-NOUGHT-iss)



**Stegosaurus**  
(STEG-oh-SORE-us)

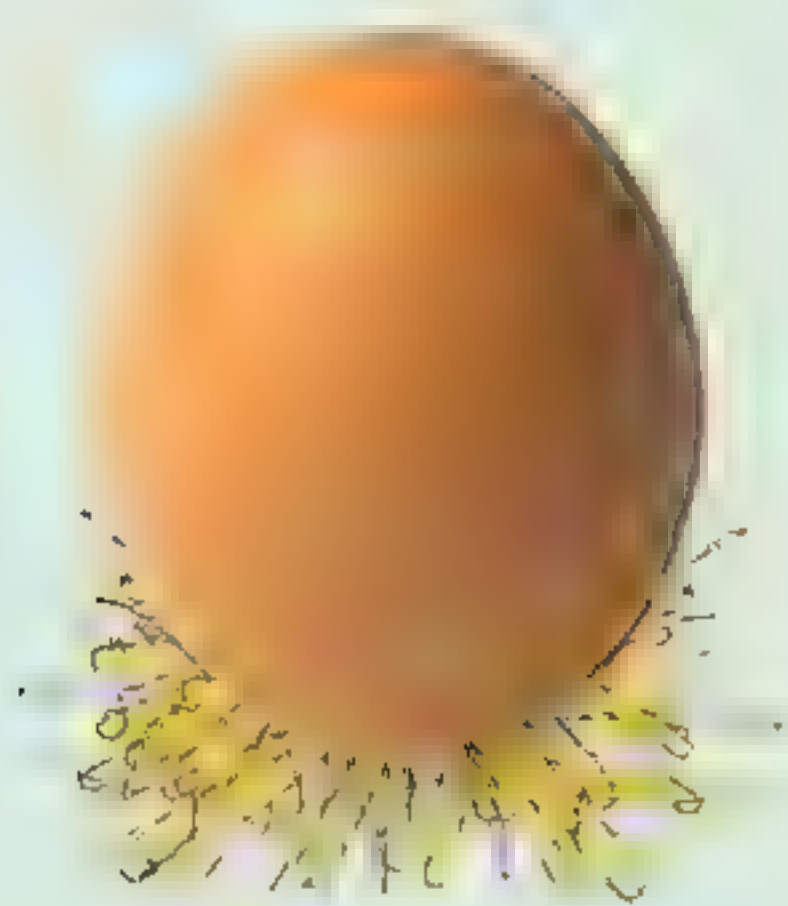


**Sauropelta**  
(SORE-oh-PELT-ah)



# Extraordinary eggs

All **baby birds** hatch out of an egg. But bird eggs come in all different shapes, sizes, and colors.



Chicken



Song thrush



Cuckoo



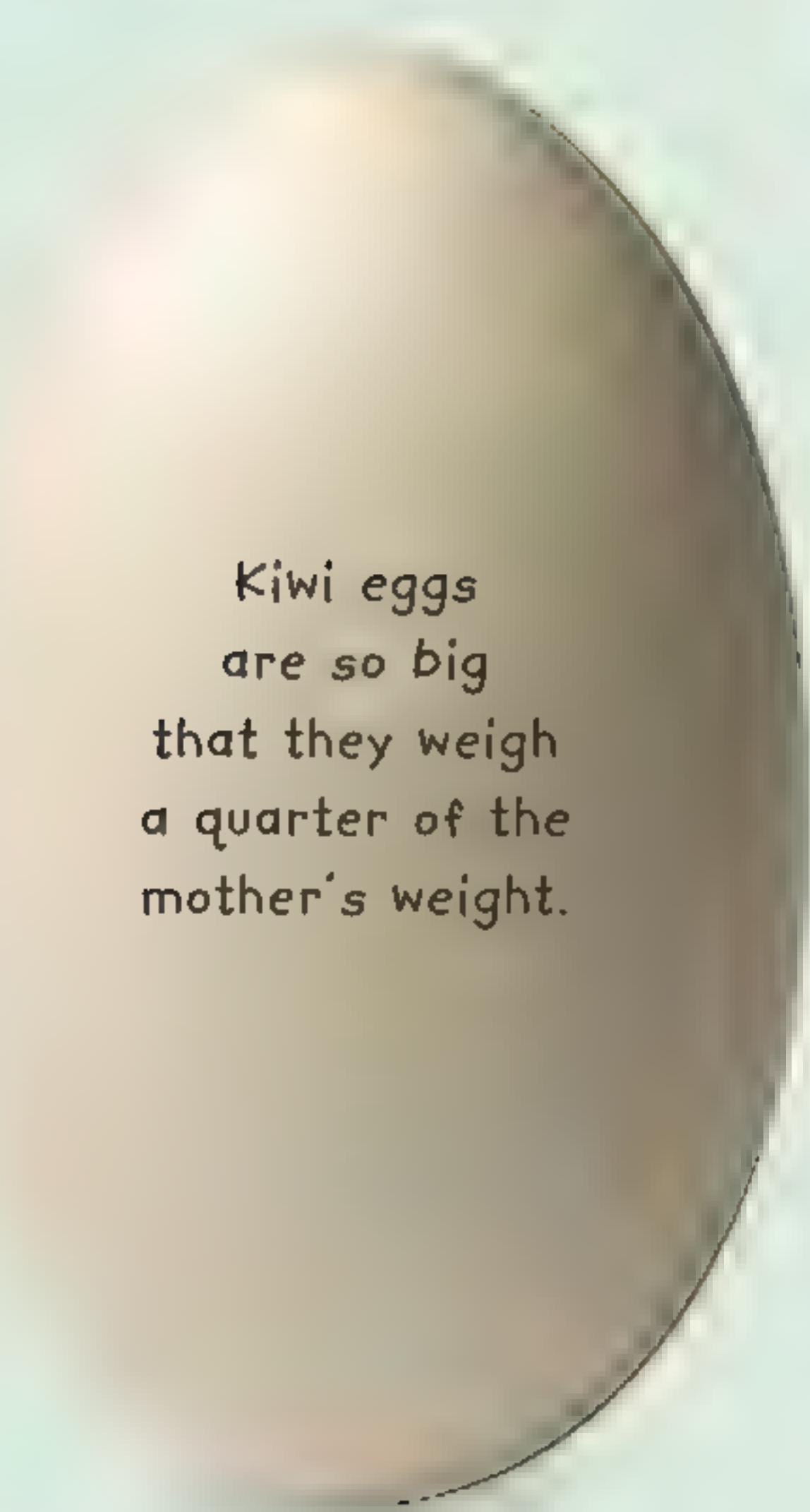
Quail

Great auks are extinct. They died out nearly 200 years ago.



Great auk

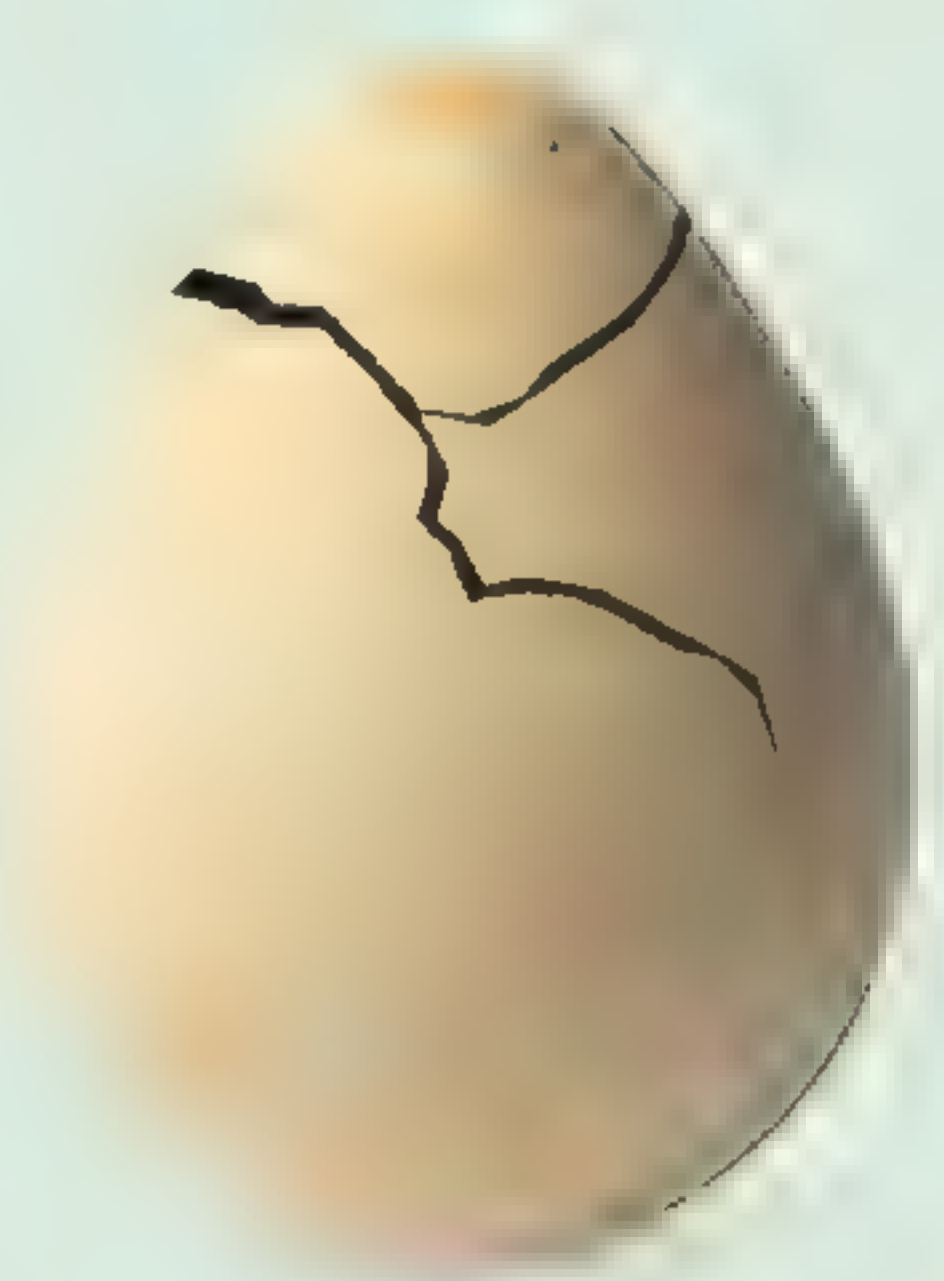
Kiwi eggs are so big that they weigh a quarter of the mother's weight.



Kiwi



Golden eagle

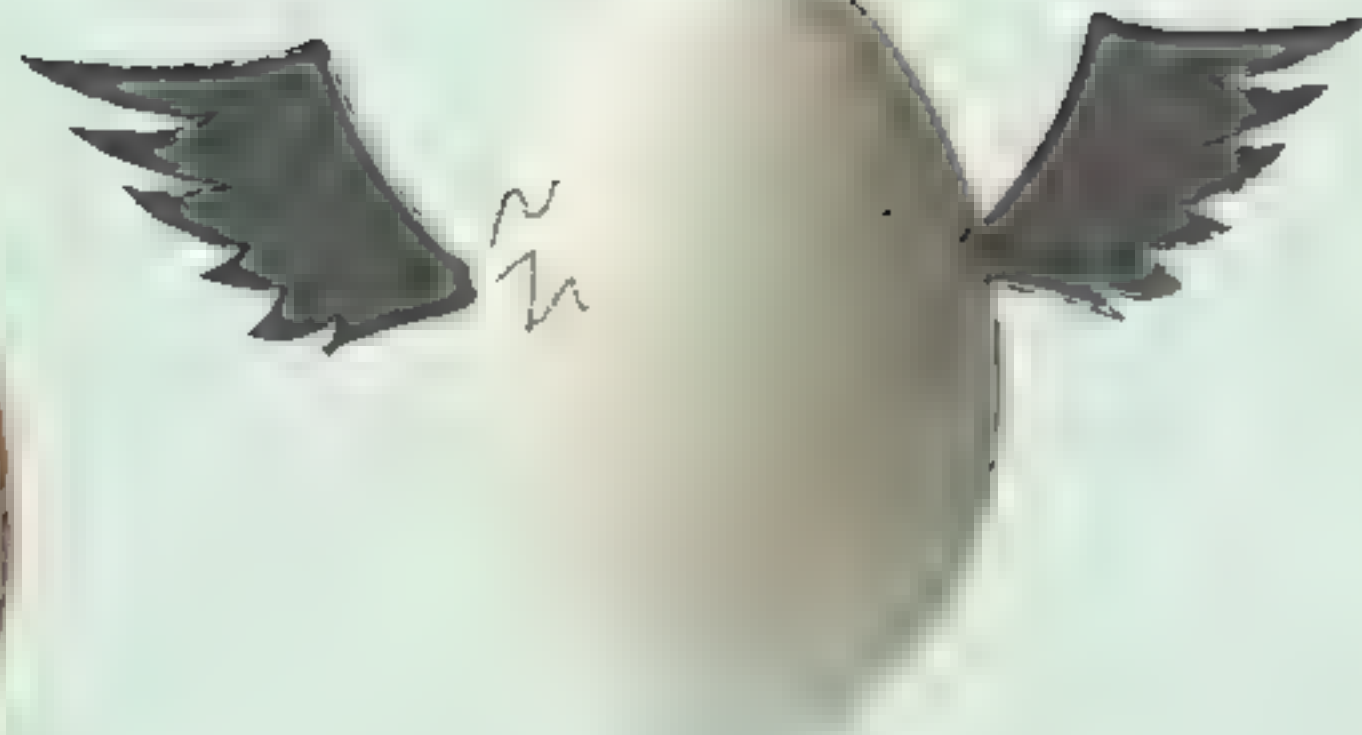


King penguin





Peregrine falcon



Cormorant

Some eggs are pointy at one end so they don't roll off the sides of cliffs.



Tawny owl



Sparrowhawk



Dunnock

Hummingbird

Reptiles, fish, amphibians, and invertebrates also lay eggs!

I'm the BIGGEST bird in the world so I have the biggest eggs.



Emu



Ostrich



# Animal babies


Baby animals and their parents don't always look the same. Some do, and many look quite similar, but some look nothing alike at all!



Butterfly



Tiger



Cub



Caterpillar

Ostrich



Owl



Owlet



Chick





Gorilla

Infant



Tapir

Calf



Tortoise

Hatchling



Fox

Cub



Penguin

Chick



Frog



Tadpole



# Fantastic flags

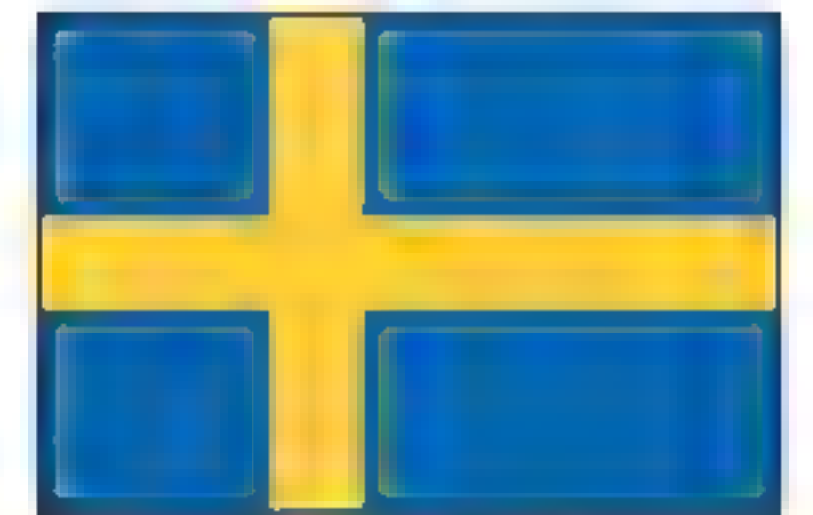
Every country has a flag to use as a symbol of who they are. The design of most flags has a very special meaning.

Organizations such as the Olympics and the United Nations can also have flags.

United Nations flag



United Kingdom



Sweden



China



South Korea



Germany



Portugal



India



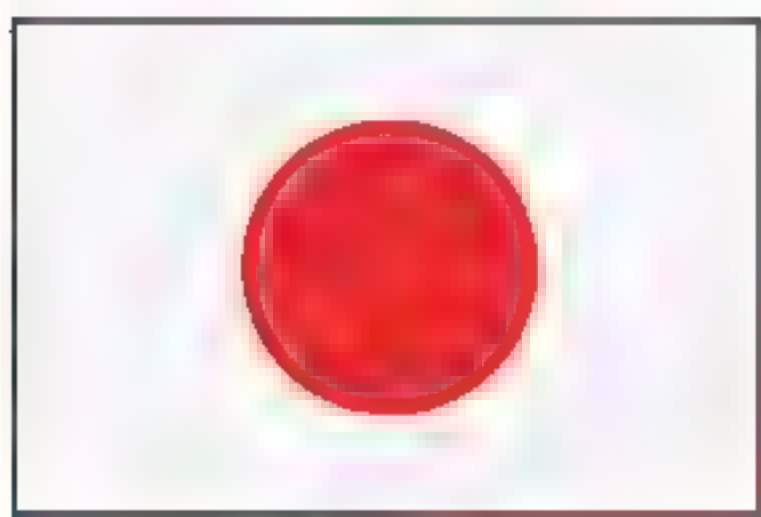
Malaysia



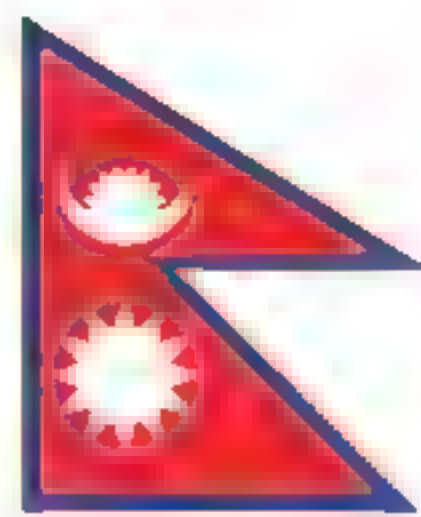
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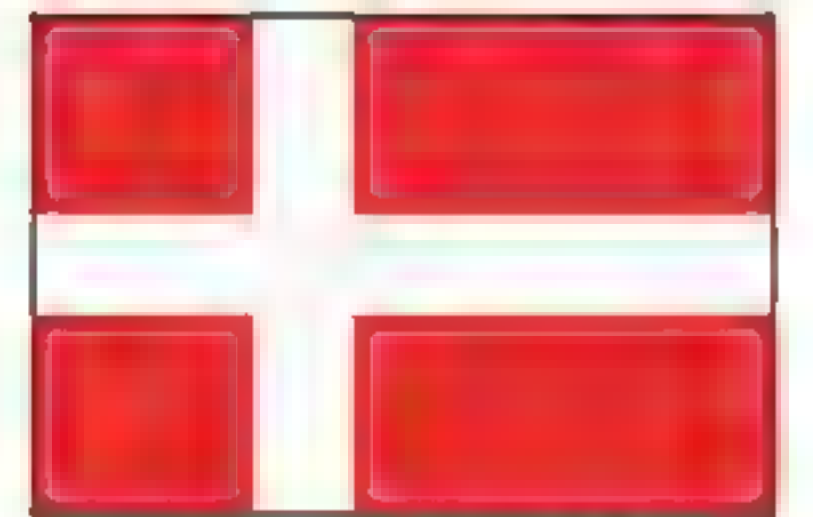
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Nepal



Spain



Denmark

Asia

Europe





United States  
of America



Brazil



Australia



South  
Africa



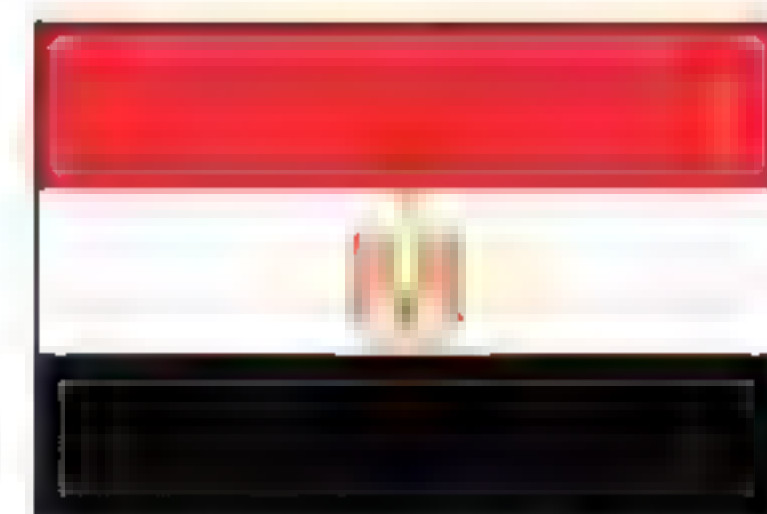
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Ecuador



New Zealand



Egypt



Cuba



Chile



Samoa



Morocco



Mexico



Uruguay



Fiji



Algeria



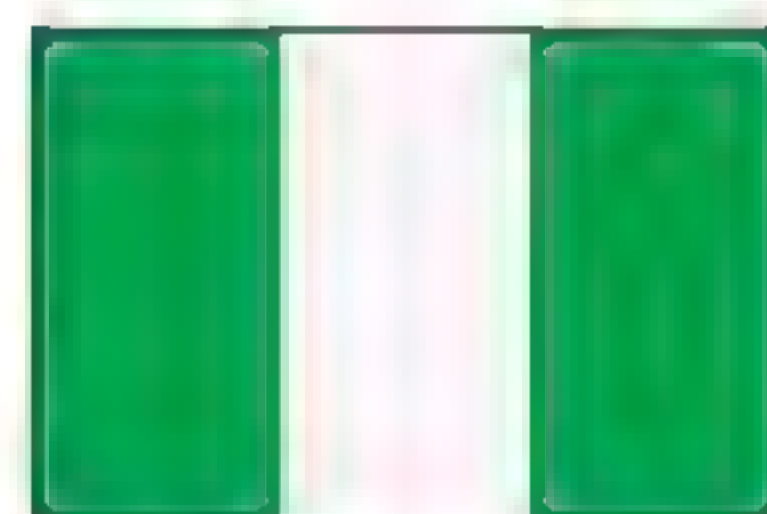
Jamaica



Argentina



Tonga



Nigeria

North  
America

South  
America

Australia  
and the  
Pacific

Africa



# Top 10 : Countries

There are lots of countries in the world.

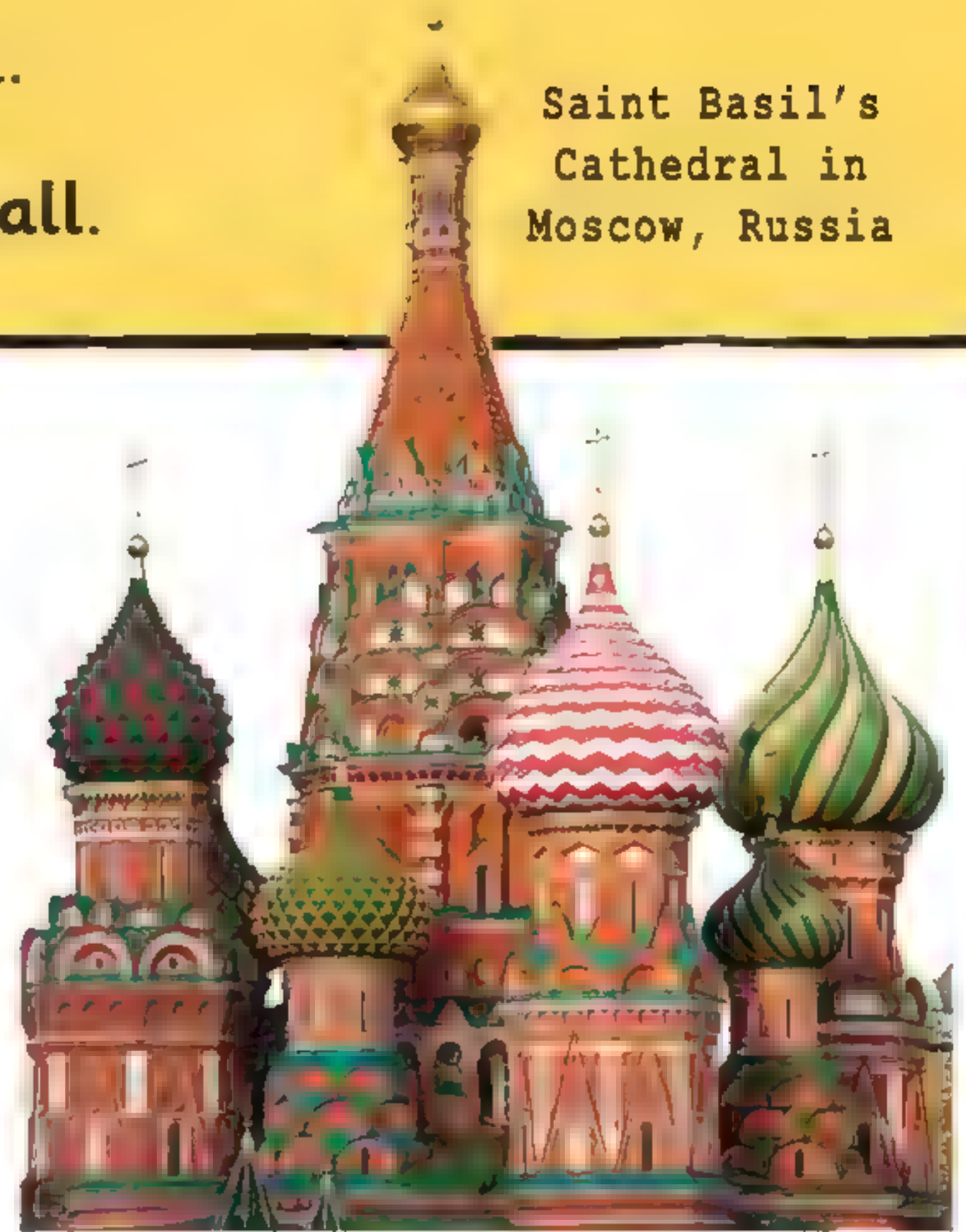
Some are **HUGE**, and others are small.

The top 10...

**LARGEST** countries

These countries are so big, you may have to take a plane to get from one side to the other!

1. Russia
2. Canada
3. United States of America
4. China
5. Brazil
6. Australia
7. India
8. Argentina
9. Kazakhstan
10. Algeria



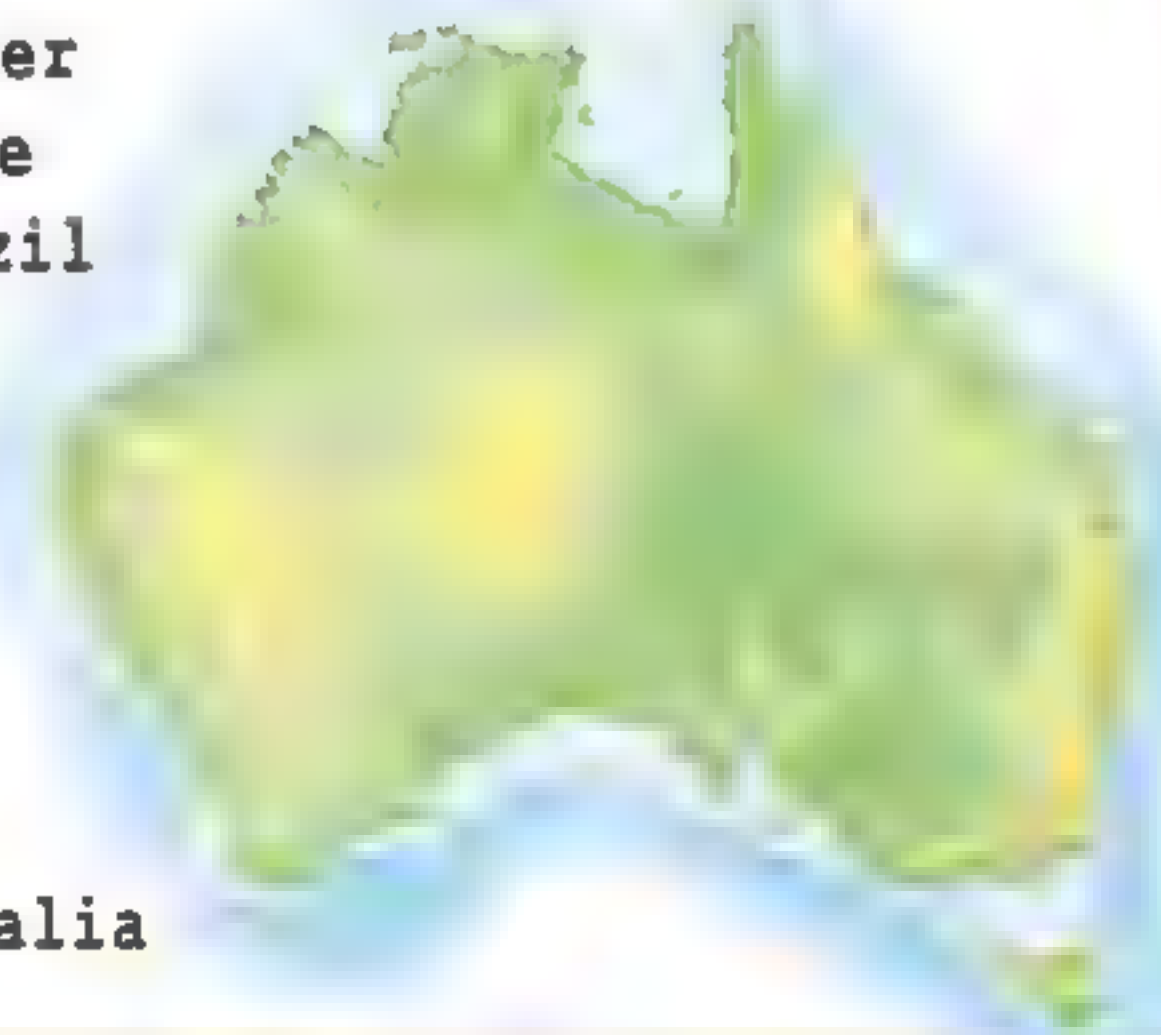
Saint Basil's  
Cathedral in  
Moscow, Russia



Christ the  
Redeemer  
statue  
in Brazil



American flag



Australia



You could fit more  
than 38 MILLION  
Vatican Cities into  
the space of Russia!

Saint Peter's  
Basilica in the  
Vatican City



The top 10...  
**SMALLEST** countries

These countries don't have much space. You can  
walk through some of them in less than a day!

1. Vatican City
2. Monaco
3. Nauru
4. Tuvalu
5. San Marino
6. Liechtenstein
7. Marshall Islands
8. Saint Kitts and Nevis
9. Maldives
10. Malta



Formula One car  
in Monaco



Tower  
in San  
Marino



Vervet monkey  
on Saint Kitts



Beach in the Maldives



# Top 10: World

Our world is full of amazing sights, from rivers that flow on and on, to huge deserts.

The top 10...

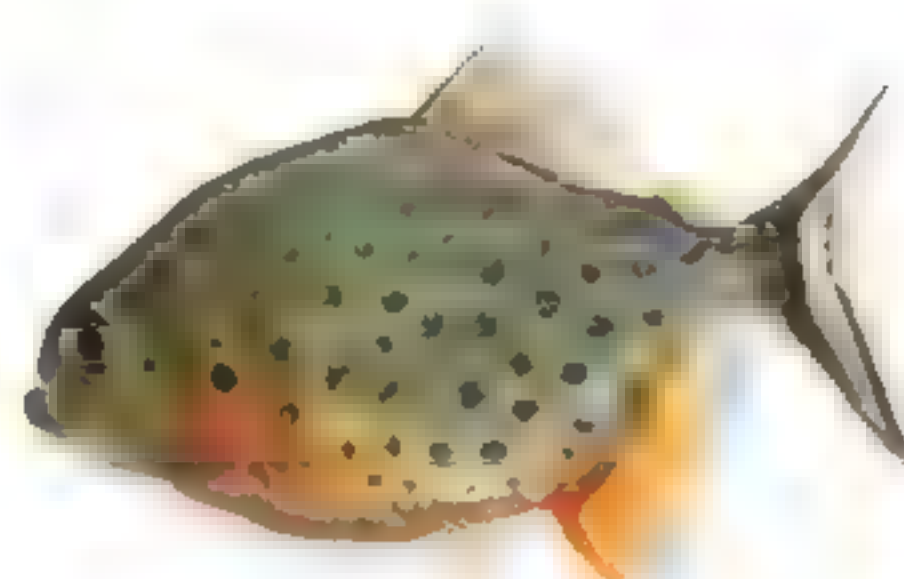
## **LONGEST** rivers

These huge rivers are SO long that some flow through lots of countries.

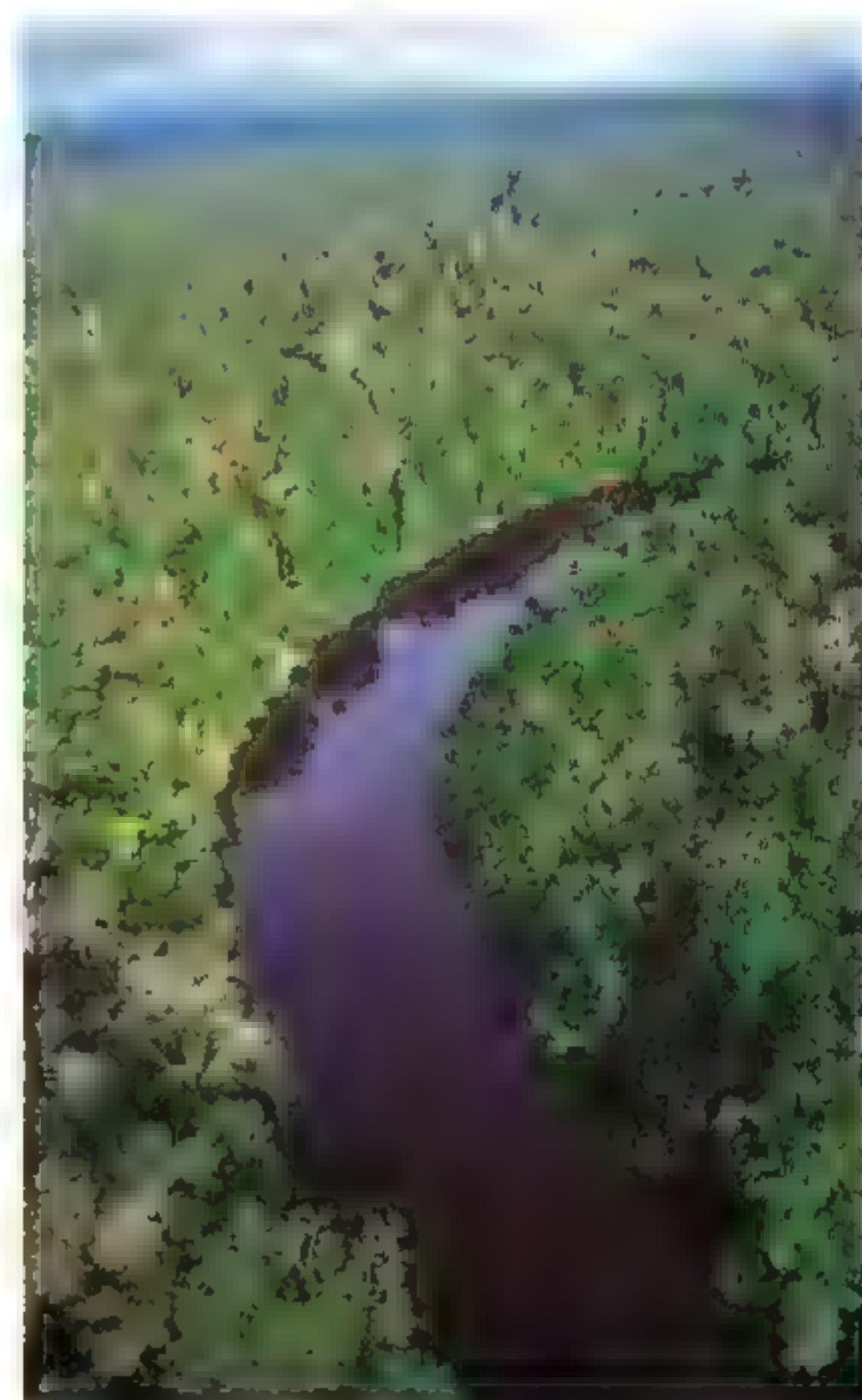
1. Nile
2. Amazon
3. Yangzte
4. Mississippi
5. Yenisei
6. Yellow River
7. Ob
8. Paraná
9. Congo
10. Amur



Caiman



Piranha



The Amazon



A boat sailing along the Nile



It's hard to measure  
the size of deserts,  
as some are getting  
**BIGGER** and **BIGGER**.

The top 10...  
**LARGEST** deserts

These dry places don't get much (or any) rain,  
and go on far further than the eye can see.

1. Antarctica
2. Sahara
3. Arabian
4. Gobi
5. Kalahari
6. Patagonian
7. Syrian
8. Great Basin
9. Great Victoria
10. Great Sandy

Penguin in  
Antarctica



Bactrian  
camel



Thorny  
devil



The Sahara





# Top 10: Animals

Some animals may be dangerous to us, but protecting all animal species is very important.

Mosquitoes  
can carry  
deadly  
diseases.



## Ten DEADLY animals

It's best to steer clear of these animals. They may have a fierce bite, deadly poison, or can spread disease.

Black mamba (snake)

Black widow (spider)

Blue-ringed octopus

Box jellyfish

Bullet ant

Great white shark

Hippopotamus

Mosquito

Poison dart frog

Tarantula hawk wasp

Great white  
shark



I'm very strong, fast,  
and aggressive.



Poison dart  
frog

Hippopotamus



Tarantula  
hawk wasp

Blue-ringed  
octopus







Giant  
panda

## GOOD NEWS!

There weren't many pandas  
left a few years ago,  
but now their numbers  
are rising.



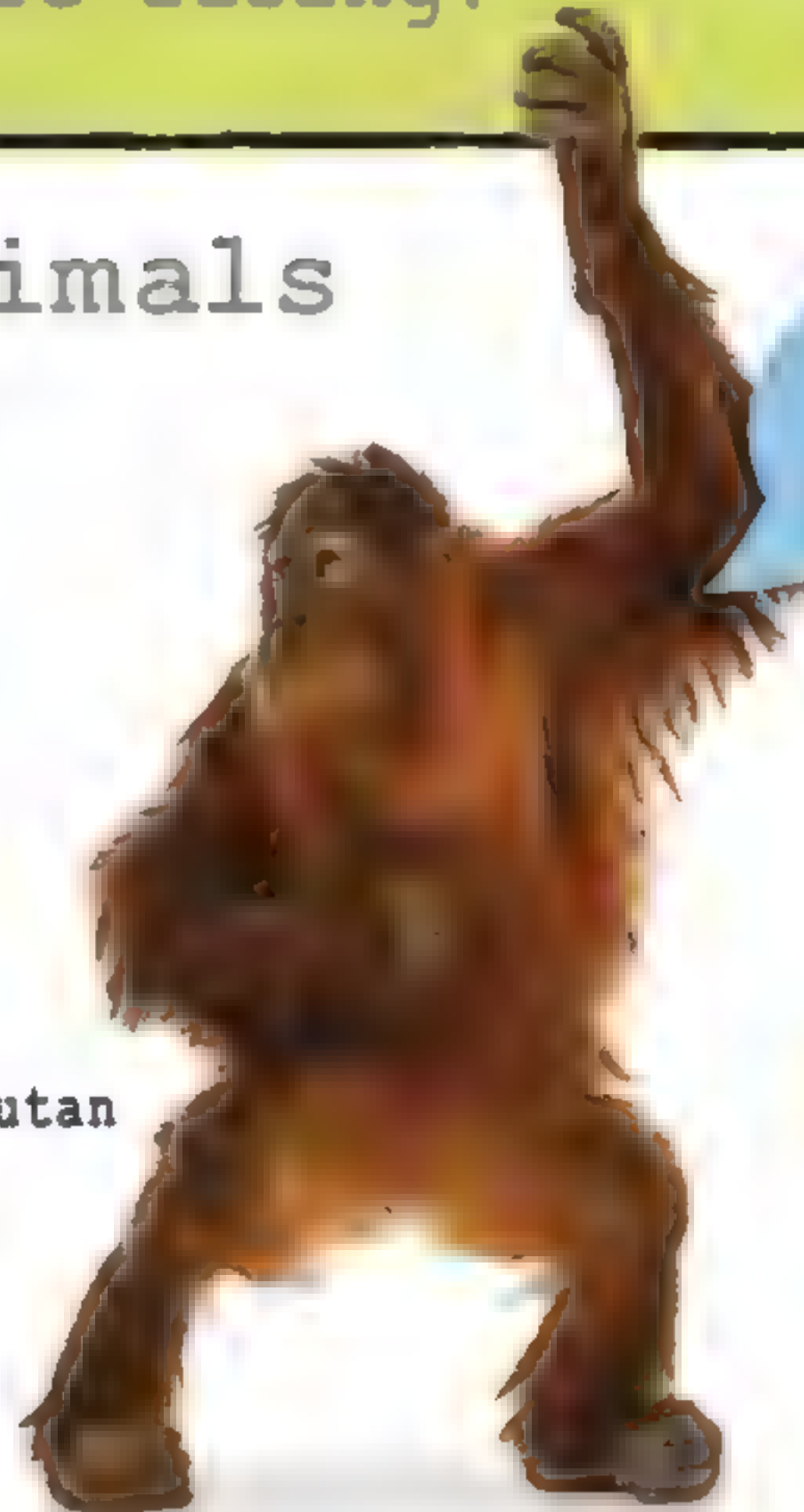
Black rhino

### Ten **ENDANGERED** animals

There aren't many of these animals  
left in the wild, but luckily some  
people are trying to fix the problem.

Black rhino  
Giant panda  
Amur leopard  
Siberian tiger  
Polar bear  
Orangutan  
Ring-tailed lemur  
Luristan newt  
Malagasy giant rat  
Radiated tortoise

Orangutan



I live in  
rain forests, but too  
many are being  
cut down.

Ring-  
tailed  
lemur



Siberian tiger cub



Luristan  
newt



Radiated tortoise



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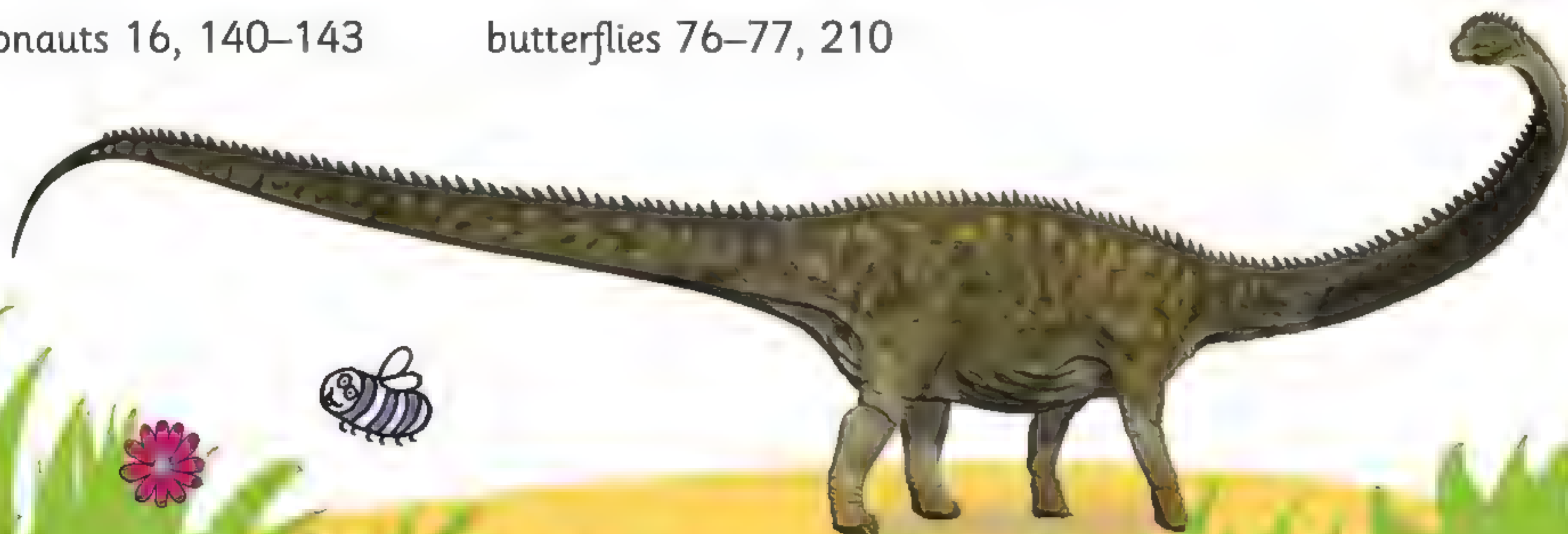
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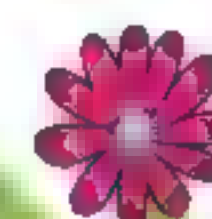
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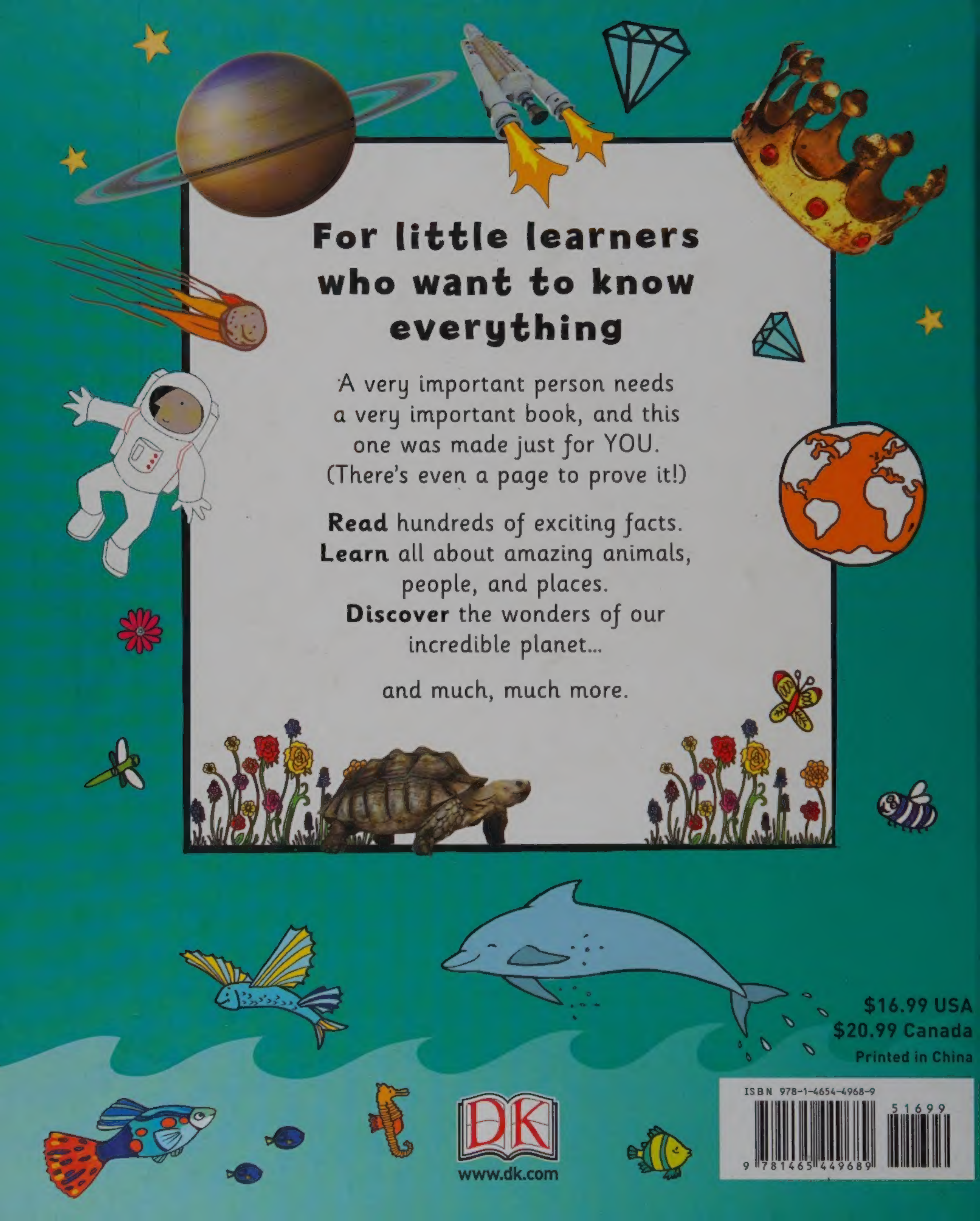












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